DEQ

VIRGINIA DEPARTMENT OF
ENVIRONMENTAL QUALITY

AIR PERMITTING GUIDELINES
New and Modified Sources

January 5, 1996

These Air Permitting Guidelines were prepared by the staff of the Department of Environmental Quality, Air Division to aid air permitting staff in the Department's Regional Offices and prospective sources in carrying out permitting programs. The Guidelines interpret appropriate provisions of the Air Pollution Control Law of Virginia (*Virginia Code* sections 10.1-1300 et seq.) and of the Virginia Regulations for the Control and Abatement of Air Pollution.

These Guidelines will be reviewed and updated by such staff as the Director of Program Support and Evaluation assigns. While suggestions regarding the Guidelines are welcome at any time, updates or interim corrections may only be made with the authorization of the Director of the Air Division and the Director of Program Support and Evaluation.

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I. INTRODUCTION

A. Purpose

The purpose of this document is to provide a guideline for prospective applicants and permit writers to reference when submitting and processing applications for the variety of permits issued by the DEQ. It should be noted that this document is intended to be used **only** as guidance for prospective applicants and permit writers.

Although this document is written in a format to allow revision when regulatory or procedural changes occur, the guidance is sufficiently general to minimize the maintenance of the document. Virginia Regulations for the Control and Abatement of Air Pollution and/or Federal Regulations should be referenced for specific standards and regulatory requirements for permits. The guidance provided in this document in no way supersedes or replaces Virginia Regulations.

B. Additional Guidance Documents

The following documents may be referenced by the permit writer when evaluating a permit application for emission quantification, air pollution control requirements, regulatory requirements or permit limitations:

- EPA's AP-42, Compilation of Air Pollutant Emission Factors
- DEQ - Air Division ENF-10A boilerplates and procedural documents
- United States Code
- Code of Virginia
- Code of Federal Regulations
- Federal Register
- EPA and other technical and scientific documents
- The EPA Draft October 1990 New Source Review Workshop Manual

II. PERMIT APPLICATION REGULATORY REVIEW SUMMARY

A. Registrations

Some sources require registration only. Guidelines for determining the need for registration are contained in Part IV of State Regulations. Regional offices are responsible for determining the applicability of source registration requirements for sources. Registration numbers are requested of appropriate Headquarters staff by the regional office. These are sources that are exempt under Appendix R, yet subject to Part IV of the regulations.

B. Exemptions

Some proposals for new or modified facilities are exempt from permitting and/or regulation. A determination of permit applicability can usually be made from information provided in Appendix R of the Regulations.

C. Permits

There are two general categories of facilities which come under Virginia's air pollution regulations. "Existing sources" (Part IV) were constructed prior to March 17, 1972 or reconstructed prior to December 10, 1976. These are referred to as "grandfathered sources." "New and modified sources" (Part V) were constructed, modified, or relocated, after 1972 or reconstructed after 1976.

In general, existing sources do not require a permit to construct and operate since they were in existence prior to the applicable permit regulations. However, some existing sources require registration and/or operating permits.

All new and modified sources not covered by an Appendix R exemption require a permit. If an unpermitted source relocates, it should be evaluated as a new source and a permit may be required. A change of ownership requires a permit modification. The previous owner must notify the new owner and DEQ.

Permit applicability for a particular proposal or source is usually determined by a permit writer after reviewing the application in comparison to several sections of State Regulations including Appendix R, Part VIII, Part V, and Part IV. Generally, a source is required to have a permit if it is subject to regulation under Parts V or VIII and is not covered by an exemption in Appendix R. Part IV contains regulations which apply to existing sources not covered by Part V.

In addition to permits to construct and operate new and modified sources, state or federal (Title V) operating permits may be required for some sources.

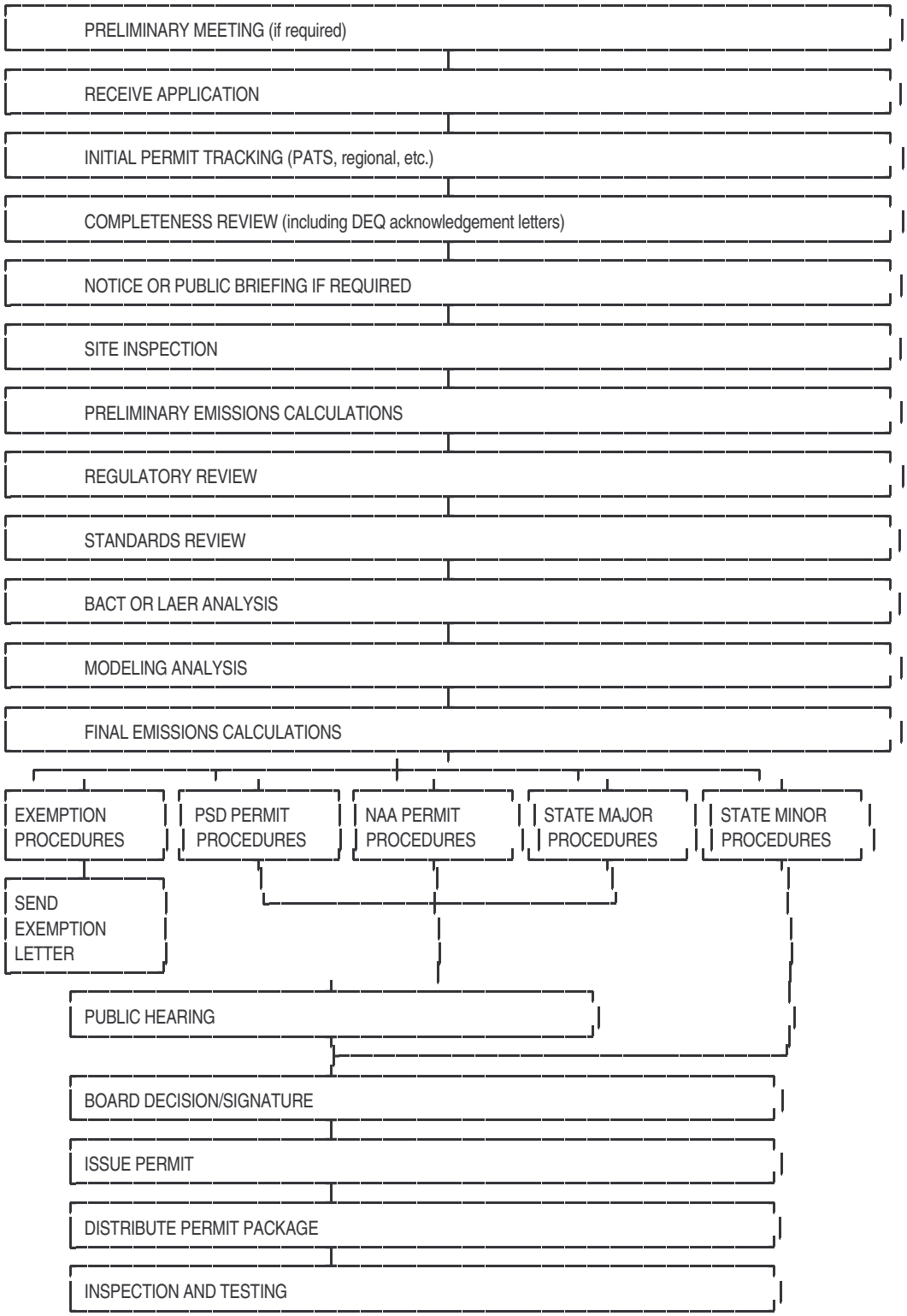
In reviewing a permit application for various regulatory requirements, later portions of this document, Virginia Regulations, and the documents cited previously should be referenced. Some specific questions the applicant and permit writer should ask when assessing an application are:

- Is the application for a permit to construct and operate, state operating permit, or a federal (Title V) operating permit?
- Are the estimated emission quantities sufficient to require review as a state major source? federal major source? Prevention of Significant Deterioration (PSD) source? non-attainment source?
- Is the source of the type category that is subject to permitting as a New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAPS) source?
- Is the source subject to a Maximum Achievable Control Technology (MACT) standard?
- Is there a minor source boilerplate or operating permit boilerplate that applies?
- What is the impact of toxic pollutant emissions? Hazardous Air Pollutants (HAPS)?
- Does the proposal have Best Available Control Technology (BACT)? LAER?
- Is public participation required?
- Is dispersion modeling required for criteria or toxic pollutants?
- What governing body notifications are required?

III. OVERVIEW OF PERMIT PROCESSING FLOW

Figure III-1 is an overview of the permit process. See appendices for more details.

FIGURE III-1 PERMIT APPLICATION FLOW CHART



IV. INITIAL APPLICATION PROCESSING

A. Pre-Application Meeting

For most permit applications, a formal meeting with regional staff is not required. Most applicants submit a permit application by mail after consulting with permit engineers informally by telephone or in person. For complex applications, applications requiring significant dispersion modeling such as PSD applications, a more formal meeting, possibly involving Headquarters staff may be appropriate. Some elements of this meeting may include, but are not limited to review of:

- specific regulatory applicability
- control technology strategies and analysis
- modeling requirements
- on-site meteorological data collection
- on-site monitoring data requirements
- potential regulatory changes within the time frame of the application review
- documentation needed for application completeness
- length of permitting process
- public participation process
- fee applicability

There are two Class I areas in Virginia: Shenandoah National Park and Jefferson National Forest - James River Face Wilderness. The Federal Land Manager (FLM) Memo of Understanding (MOU) should be consulted for additional notification requirements concerning sources which may impact these areas such as:

- PSD
- Major source and major modifications within 100 km of any Class I area
- All sources within 10 km of any Class I area

B. Completeness of Application

The regulations specify that an application must be deemed complete in order for a permit to be issued, but just what constitutes a complete application is not specified within regulations. Each permit engineer is responsible for obtaining the necessary information and determining completeness for a suitable engineering analysis on any particular permit application.

The date a particular application is complete is the date of receipt of the last information necessary to issue the permit. Examples of information necessary for an engineering analysis may include:

- process descriptions, stack parameters, emission information, throughput rates, operating periods, control technologies, Material Safety Data Sheets, and a wide variety of other technical information
- signatures, addresses, locations, and other information pertaining to identification of the source
- any supporting documentation required by regulation, code or law such as, but not limited to Document Certification Forms, Local Government Notification Forms, etc.

The Form 7 permit application contains sufficient instruction and guidance to both the applicant and the reviewing permit writer on the specific requirements for a complete application. Although the amount and nature of information required to be submitted by an applicant for a permit to be issued varies, there are certain common elements that must be present in order for an application to be deemed complete. Confirmation of this information is ultimately the responsibility of the permit engineer and is left to their evaluation.

1. Local Approval

The following applications require local approval to be complete:
- new plants (entirely new "green field" site)
- major modifications (net emissions increase > or = to 100 tpy)
- PSD
- Nonattainment

Local approval does not apply for federal or state facilities. Local approval may be a signed local government ordinance form or letter stating that the site selection and operation are consistent with local ordinances. If the locality fails to respond within 45 days of receiving the request from the applicant, local approval is waived. The applicant must provide documentation that the request was submitted to the locality.

2. DEQ Response Deadlines

Regulations specify that DEQ staff review all applications for completeness within 30 days of receipt of an application. In addition to the review, it is specified that DEQ notify the applicant of the applicability of specific permitting regulations to their proposal. Not only is this letter used to notify the applicant of the applicability of permitting regulations to their proposal, it is used to inform them that their application "appears to be complete" or is deficient in specific areas.

It is also required that written or verbal acknowledgement be provided by DEQ within 30 days of receipt for all subsequent addendum information provided by the applicant. Issuance of the permit may serve as the acknowledgement.

V. EMISSIONS CALCULATIONS - CRITERIA AND TOXIC POLLUTANTS

Pollutant emission rates, type of source, and location of source are factors used to determine which regulatory requirements are applicable to a given source. Emission calculation of pollutant emission rates may be required to determine exemption status or the type of permit required. The engineer calculates the proposed source's estimated uncontrolled and predicted emissions and recommends a permit emission limit based on the regulatory review, emission control evaluation, air quality analysis, and toxics analysis.

Specific boilerplates have been designed to make the permitting process more efficient for certain types of sources. Use of these specific boilerplates when applicable, will provide more specific information than these general guidelines.

A. Emission Factors

Emission factors and other data to estimate emissions may be found in:

- Boilerplate Procedures.
- Stack test data.
- Mass balances based on physical/chemical principles.
- Manufacturers' guarantees.
- EPA publication AP-42 and AP-40.
- EPA source classification codes (SCC numbers).
- Air Pollution Engineering Manual (AWMA).
- Air Quality Permits (STAPPA/ALAPCO Handbook)
- Source data.
- VOC/PM Speciation.
- Control Technology Guidance (CTG) Documents.
- Alternative Control Techniques (ACT) Documents.
- EPA Control Technology Center.
- Locating and Estimating (L&E) Series Documents.

List the references for the emission factors used and support any undocumented emission factors with sound engineering and scientific principles. Contact Office of Permit Assistance and Techical Support (OPATS) or the Office of Small Business Assistance, Air Toxics section (SBA/ATS) for assistance as necessary.

B. Uncontrolled Emissions

The annual uncontrolled emissions for a modified new source or the change to an existing source is used to determine if the source is exempt or a "synthetic minor." Uncontrolled emissions are based on operating at maximum design capacity without air pollution controls, but considering enforceable permit conditions that limit the hours of operation or production or process rate on an annual basis. Annual emissions are calculated differently depending on whether the emissions unit is new or being modified and whether the emissions unit is currently permitted. Annual emissions are based on 8,760 hours of operation when not limited by permit conditions. Annual emissions for paint spray booths are typically

based on maximum expected throughput (see boilerplates). Daily emissions may need to be calculated for some permit applications.

1. New Emissions Unit
   Hourly - the emissions resulting from operating at maximum design capacity without air pollution controls.
   Annual - the emissions based on 8,760 hours of operation without air pollution controls.

   Permit applicability -

   a. for new units at new sources compare the emission rates to the exemption rates in Appendix R, Section II (exemption by size) or IV (new source exemption table to be used if not covered in Section II), and Section IX.

   b. for new units at existing sources compare the emission rates to the exemption rates in Appendix R, Section II or Section V, and Section IX.

2. Modified Emissions Unit - (see examples at end of this section)
   For changes to an emissions unit, the calculations for annual uncontrolled emissions are dependent on whether the emissions unit is currently permitted.

   a. Existing/Unpermitted unit
      Modifications to these units usually involves an increase in the maximum capacity of the units.
      Hourly - the emissions resulting from operating at the new maximum design capacity without air pollution controls.
      Annual - the emissions resulting from operating after the modification at 8760 hours per year without air pollution controls.
      Permit applicability - Take the post modification emissions and subtract the current emissions (operating the current unit at 8760 hours per year without air pollution controls). Compare the result to the modified emission rates in Appendix R, Section V and IX to see if the change is a modification.

   b. Currently permitted unit
      Calculations for currently permitted emissions units must be based on the permit rather than 8760 hours per year because the definition of uncontrolled emissions includes permit conditions. Modifications to these units often involves an increase in the permitted throughput or hours of operation.
      Hourly - the emissions resulting from operating at maximum design capacity without air pollution controls.
      Annual - the emissions resulting from operating at the new requested throughput or operating hours without air pollution controls.
      Permit applicability - Take the new annual emissions and subtract the emissions resulting from currently permitted limits (throughput, hours) without air pollution controls. Compare the result to the modified exemption rates in Appendix R, Sections V and IX to see if the change is a modification or an administrative amendment.

C. Predicted Emissions

Predicted emissions take into account the proposed control methodology. Hourly emissions are based on maximum capacity and annual emissions are based on proposed throughput and/or hours of operation, unless a restriction is required (such as a modeled NAAQS exceedance). Predicted emissions must meet BACT or LAER, including applicable NSPS, NESHAP, or standards from the Regulations, such as Part IV or V.

If preliminary calculations show a potential air quality exceedance of a SAAC, or that a PSD review may be required, negotiations with the source may be required to resolve exceedances or to allow a minor permit to be issued. After the engineer completes the regulatory review, emission control evaluation, air quality analysis, and toxics analysis, the calculations may be refined based on new information or conditions accepted by the source such as a reduction in requested throughput, substitute coatings, or increasing of stack heights or use of controls.

D. Recommended Permit Emission Limit

The permit limits are usually the predicted emission rates, but may be different based on the following:

1. An allowance for equipment deterioration may be given by setting the permit limits at 120 percent of predicted emissions, provided BACT or LAER is still met.
2. Criteria pollutants with emissions less than 0.5 tons per year are not listed in the permit.
3. Toxic limits are not listed in the permit if the predicted emission rate from a new emissions unit or the net increase from a modification is less than the toxics exemption rate. Toxic limits may also be omitted if these three conditions are met:
   - ! The emission factor contains significant uncertainties.
   - ! There is no emissions testing for that toxic required by the permit.
   - ! There is no realistic way to measure the limit.

The justification should be listed on the worksheet when the Predicted Emissions are not used as the Recommended Permit Emission Limits. When BACT is determined by a "top-down" BACT Analysis (PSD Permits) or has been determined by Department policy, the permit limits shall not be increased.

E. Netting

Netting is the use of an emission reduction credit plant wide at an expanding or modernizing major source to lower the net emissions increase below significant levels at the same source and to, thus, avoid the requirement of new source review under ∋120-08-02 and ∋120-08-03. Emission reduction credits used for netting are always internal to the source seeking credit. The emission reductions must be permanent, surplus, quantifiable, and state and federally enforceable. The baseline for calculating an emission reduction credit is the lower of actual or allowable emissions, generally the average of the most recent two years. If a source subject to RACT submits an application for a permit to modify proposing netting, then the lower of actual emissions or SIP allowable emissions (including RACT allowable emissions) is used to establish the baseline for netting.

Actual emissions calculations use historical measured parameters, such as sulfur content of fuel, not the allowable or permit limit. Note that Virginia uses the "Plant-wide" definition of a Stationary Source which is "any building, structure, facility, or installation which emits or may emit any air pollutant subject to regulation under the Federal Clean Air Act." Netting out of nonattainment review is allowed, even if

the proposed emission unit or modification is major provided the net emissions increase is less than the nonattainment significance level.

Emission reduction credit anywhere in a contiguous plant may compensate for potential emission increases at individual emitting units within the plant. Netting may exempt modifications of existing major sources from major source review, as long as the net increase falls below significance levels. Minor sources can not "Net Out." A 50 tpy source with a proposed modification of 260 tpy can not "Net Out" by shutting down a 20 tpy unit and claiming a net increase of 240 tpy. For major sources, by "netting out", the modification is not considered major. The modification must nevertheless meet applicable NSPS, NESHAP, and preconstruction applicability review requirements under 40 CFR 51.160(a) - (e) and 51.161 - 51.164, and SIP requirements and would be subject to permit requirements under Ə120-08-01. Netting out of BACT is not allowed.

All increases and decreases must be accounted for in a contemporaneous manner (as defined under the 'net emissions increase' definition in Ə120-08-02 and Ə120-08-03 of the Regulations and the NSR workshop manual, Chapter A, Section III B.2). To be contemporaneous, the changes must occur within a period:

- Beginning 5 years before construction is expected to commence on the modification and;
- ending when the emissions increase from the modification occurs.

EXAMPLES

EXAMPLE OF MODIFICATION TO EXISTING OR UNPERMITTED EMISSIONS UNIT

A process with an emission factor of 2 lb PM_{10}/ton feed input is changed to increase the maximum rated capacity from 10 tons per hour to 15 tons per hour feed input. The new uncontrolled emissions are based on 15 tons per hour feed input and operating at 8760 hours per year. The current uncontrolled emissions are based on 10 tons per hour feed input and operating at 8760 hours per year. The difference between the two is compared to the table.

New uncontrolled annual emissions =
15 tn/hr x 2 lb PM_{10}/tn x 8760 hr/yr x tn/2000 lbs = 131.4 tn/yr
Current uncontrolled annual emissions =

10 tn/hr x 2 lb PM_{10}/tn x 8760 hr/yr x tn/2000 lbs = 87.6 tn/yr

Increase = 131.4 - 87.6 = 43.8 tn/yr

The modification exemption rate for PM_{10} is 10 tons per year so this is a modification and a permit is required.

EXAMPLE OF MODIFICATION TO CURRENTLY PERMITTED EMISSIONS UNIT

A plant that is limited to 300,000 gallons per year of #2 fuel oil requests an increase in throughput to 400,000 gallons per year. The new uncontrolled emissions are based on 400,000 gallons per year. The current uncontrolled emissions are based on 300,000 gallon per year. The difference between the two is compared to the table.

New uncontrolled annual emissions =

400,000 gal/yr x 143.6(0.5) lb SO_2/1000 gal x tn/2000 lb = 14.4 tpy
Current uncontrolled annual emissions =

300,000 gal/yr x 143.6(0.5) lb SO_2/1000 gal x tn/2000 lb = 10.8 tpy

Increase = 14.4 - 10.8 = 3.6 tpy

The modification exemption rate for SO2 is 10 tons per year so this is an administrative amendment to the current permit.

VI. BEST AVAILABLE CONTROL TECHNOLOGY

A. Definition

"Best available control technology" means a standard of performance (including a visible emission standard) based on the maximum degree of emission reduction for any pollutant which would be emitted from any proposed stationary source which the board, on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs, determines is achievable for such source through the application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard in Rule 5-5 or Rule 6-1. If the board determines that technological or economic limitations on the application of measurement methodology to particular emissions unit would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead of requiring the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

B. BACT For State Permits

BACT is required for all new facilities and modified sources subject to the provisions of section 120-08-01 of the Regulations. In many cases experience with an applicant's industry category is sufficient to set BACT without further analysis; BACT proposals will be reviewed and determined if they are acceptable commonly used control technology. In cases where processes are not common in Virginia, the EPA BLIS Data Base should be used to determine BACT. For assistance, contact OPATS or other appropriate staff.

In determining BACT, the permit engineer will review:

- applicable boilerplates
- BACT/LAER Information System (BLIS) Data Base
- NSPS, RACT, Part IV, MACT, GACT, NESHAP (Parts 61 and 63)

1. New Source Performance Standards (NSPS) 40 CFR 60

The new source performance standards (NSPS) emission standards reflect the performance of the best available systems of emission reduction (considering cost). This establishes the minimum performance for the emissions control system. NSPS are found in 40 CFR 60.

2. Reasonably Available Control Technology (RACT)

Reasonably available control technology (RACT) is not applicable to new or modified sources. However, RACT technology must be considered in the BACT analysis. RACT is discussed in EPA issued Control Technology Guidelines and Alternative Control Techniques.

3. Part IV Control Technology

Control Technologies for existing sources are discussed in Part IV of the Regulations. These also serve as the minimum controls acceptable for new and modified sources undergoing BACT analysis pursuant to Part V.

4. Maximum Achievable Control Technology (MACT) 40 CFR Part 63

MACT is the maximum degree of reduction in emission of HAPs taking into consideration the cost, any non-air quality health and environmental impacts, and energy requirements. MACT may be achieved, in part, through application of measures, processes, methods, systems or techniques. MACT technology must be considered in the BACT analysis.

5. Generally Achievable Control Technology (GACT)

Non-major HAP sources (<10 tpy each and <25 tpy total) are referred to as Area Sources under Title III of the Clean Air Act. The Act requires EPA to set GACT for certain area source categories. EPA must list the categories by November 1994 and set standards by November, 2000. These categories must cover 90% of area source emissions of the 30 HAPS that present the greatest health threat in the largest urban areas. Unlike MACT sources, EPA need not conduct a residual risk analysis for GACT sources.

6. National Emission Standards for Hazardous Air Pollution (NESHAP) 40 CFR Part 61

The National Emission Standards for Hazardous Air Pollution (NESHAP) emission standards reflect the performance of the best available systems of emission reduction, taking into account health effects of some specific pollutants. This establishes the minimum performance for the emissions control system.

C. Best Available Control Technology (BACT) for PSD Permits

Determination of BACT should be coordinated with OPATS for PSD. A Top-Down BACT analysis requires five steps which are listed below and found in more detail in:

- NSR Workshop Manual, Draft October 1990, Section 3, BACT, EPA Publishers
- Cost Control Manual (Fourth Edition), EPA 450/3-90-006, EPA Publishers

TABLE VI-1 TOP-DOWN BACT ANALYSIS

STEP	TOP-DOWN BACT ANALYSIS
1	Identify all control technologies
2	Eliminate technically infeasible options
3	Rank remaining control technologies by control effectiveness
4	Evaluate most effective controls and document results
5	Select BACT

VII. LOWEST ACHIEVABLE EMISSION RATE

Lowest Achievable Emission Rate (LAER) only applies to major new sources and major modifications in nonattainment areas (nonattainment permits). See the New Source Review Workshop Manual, Chapter F, for a discussion of nonattainment review and when to apply LAER.

In discussing nonattainment, EPA uses two definitions of source, the "plantwide" definition and the "dual source" definition. Virginia has adopted the plantwide definition of source, which is less stringent than the dual source definition and is the same definition that is used in PSD.

LAER means, for any source, the more stringent rate of emissions limitation based on the following:

(i) The most stringent emissions limitation which is contained in the implementation plan of any State for such class or category of stationary source, unless the owner of the proposed stationary source demonstrates that such limitations are not achievable; or

(ii) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source.

In no event shall the application of this term allow a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under an applicable new source performance standards.

LAER differs from BACT in that economic feasibility is not a consider-ation. The lowest emission rate that has been demonstrated to be technically feasible is the rate that must be met.

Sources of information for determining LAER are following:

(i) SIP limits of all States for that particular class or category of source.

(ii) Nonattainment preconstruction or operating permits issued in any nonattainment area for that particular class or category of source.

(iii) The BACT/LAER/RACT Clearinghouse (EPA BLIS Data Base).

Of these, the BACT/RACT/LAER Clearinghouse is the most useful. The source must demonstrate that any emission rates lower than those proposed are technically not feasible for the source.

VIII. AIR QUALITY ANALYSIS

The following guidance addresses when to perform an air quality analysis. For specific information as to how to perform such analyses, refer to the appropriate separate modeling guides:

! Virginia PSD Air Quality Modeling Guideline - PSD permits, including modeling to determine if modifications to major facilities within 10 km of Class I areas are significant.

! DEQ Air Quality Modeling Procedures for Regional Application - Air Toxics and, when deemed necessary, Non PSD criteria pollutants.

A. Applicable Modeling Requirements

Modeling requirements are determined on a pollutant by pollutant basis.

1. PSD permits
All PSD permits require extensive modeling. Note that the definition of "significant" in ' 120-08-02, which triggers the applicability provision, includes any modification to a "major" source located within 10 km of a Class I area which would show a 24-hour impact of 1 µg/m^3 or greater of any pollutant. Use the ' 120-08-02 definition of a "Major Source" carefully.

2. The modeled impact from the source is added to the background value considered appropriate for the specific area. Then the total impact is compared to the NAAQS. Ambient background values will be provided by OPATS. Guidelines for their use are included in the DEQ Air Quality Modeling Procedures for Regional Applications.

3. Except as provided in section A.1. above, no criteria pollutant modeling is required for a net emissions increase below the PSD Significance Levels. No modeling is required for ozone, nor for VOCs as criteria pollutants. Fugitive particulate emissions are not considered for determining the need for modeling, except as provided in the PSD definitions in section 120-08-02.A.3. of the Regulations. Fugitive emissions must be included in modeling analyses for applications determined to be subject to PSD. Fugitive particulate emissions are not to be modeled for non-PSD applications. However, individual toxic components of both VOC and particulate emissions may need to be modeled (See Section IX).

4. The following factors should be weighed when deciding if the entire facility should be modeled:
   - ! magnitude of the net emission increase
   - ! stack characteristics
   - ! location of property lines
   - ! complexity of the facility
   - ! substantive complaints or other information that is cause for suspicion of a NAAQS or SAAC violation
   - ! ambient measurements are very close to NAAQS or SAAC

5. Nonattainment permits
Virginia has nonattainment areas for two pollutants only, ozone and carbon monoxide. Modeling is not done specifically in conjunction with ozone nonattainment permits, but may be required for pollutants

for which the area is in attainment. For carbon monoxide nonattainment permit modeling, confer with OPATS on a case-by-case basis.

B. Modeling Responsibilities

For PSD permits and NA permits, the applicant is responsible for all modeling. However, OPATS evaluates the model input data, modeling approach and interpretation of results in order to verify that the modeling is consistent with US EPA and Virginia DEQ guidelines. Portions of the analysis are repeated by OPATS in order to ensure that the model has not been altered or tampered with and to ensure that it has been correctly applied.

For other permits, initial screening modeling may be done by either the applicant or the region. If the screening model shows a potential air quality problem (with the NAAQS or SAAC) the applicant may elect to revise emission rates or parameters, which could then be remodeled by again either the region or applicant. Alternatively, a more refined modeling approach could be utilized, which may be less conservative, and might allow demonstration of acceptable air quality without reducing emission rates or otherwise changing parameters. OPATS should be consulted when a refined modeling analysis is required.

The Regional Director may request OPATS to perform a refined modeling analysis of the applicant's source along with appropriate background sources. OPATS may conduct the analysis if Department resources are available. If the OPATS workload is such that sufficient resources are not available to conduct the requested analysis in a timely manner, then it may be necessary to require the applicant to conduct the analysis.

C. Review of Modeling Protocol and Results

If the applicant performs refined modeling, a protocol must be approved by OPATS prior to modeling. The modeling protocol must be reviewed within 30 days of submittal. The regional staff may review results from screening models (US EPA SCREEN model only). For permit applications subject to public participation, OPATS should review any modeling analysis prior to the public comment period.

Review of results amounts to two parts. The first is to ensure that the protocol was properly followed. The second part is interpretation of results. These steps may be done by a region or other agency unit for the types of models it would routinely perform itself, but for most complex models, and for all PSD models, review must be done by the OPATS.

D. Matching Permit Conditions to Modeling Results

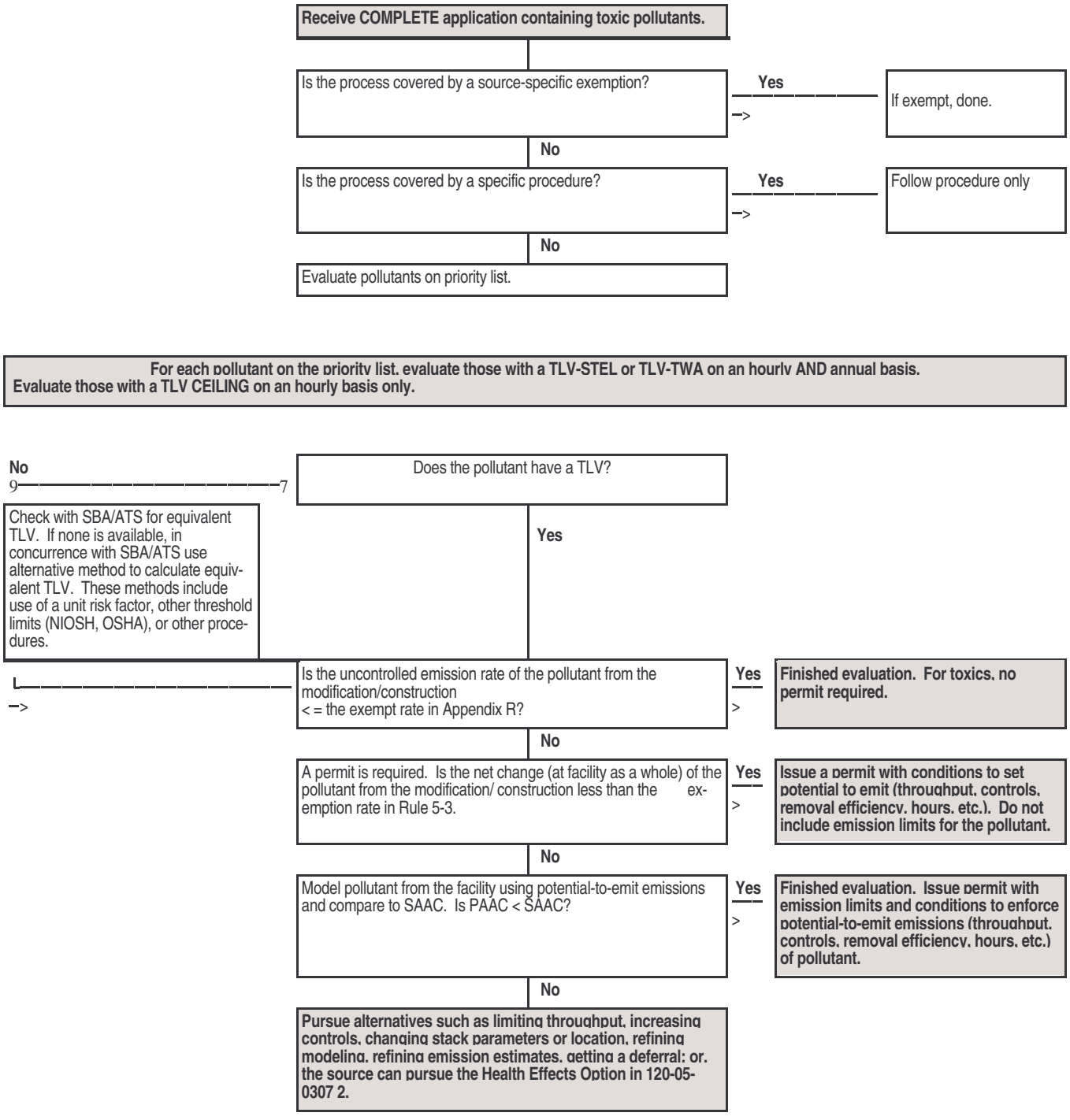
When modeling has been done in conjunction with a permit application, the permit must contain emission limits and other conditions necessary to ensure that the source as built and operated will have no impact greater than that demonstrated as needed by the modeling. If initial modeling, using data from the application, showed a problem which required changing emission limits, hours of operation, stack height or orientation, exit temperature or velocity or other parameters, the changes must be incorporated into specific enforceable conditions in the permit. The applicant must be given an opportunity to review and approve such changes from the original application. While it might seem simple to add a few feet of stack to a source, there may be structural, cost, aesthetic, or zoning limitations the permit engineer would not be aware of, necessitating an alternate approach.

E. Presenting Modeling Data to the Public

Modeling analyses are undoubtedly one of the most difficult aspects of air permitting for the general public to comprehend. Permit documentation should make the task as easy as possible, especially for projects requiring a public comment period. Suggestions include tabulation of the critical values extracted from the frequently massive data printouts, incorporation of the applicable standards in such tables, narrative description in layman's language, and graphic depictions. Graphics might include charting of results versus a line representing the applicable standard as well as normal background values, and producing isopleth maps showing geographic range of impact. Especially useful would be a listing of assumptions used in the modeling, with narrative provided to show the extent to which they are on the conservative side.

IX. AIR TOXICS ANALYSIS

FIGURE IX-1 TOXICS REVIEW GENERAL FLOW CHART



A. Source-specific exemptions

1. Consumer products - see section 120-05-0301 F
2. NESHAPS - section 120-05-0301 E.1.a
3. Hazardous waste incinerators - section 120-05-0301 E.1.b
4. Pesticides - see Section 120-05-0301 G

B. Specific procedures

PROCESS/POLLUTANT	COMMENTS	SEE
BOILERS-GAS & DIST OIL <100 MBTU/HR	GENERALLY NOT NECESSARY	NG-DO.PRO
BOILERS-RESIDUAL OIL <100 MBTU/HR	MAY EVALUATE BERYLLIUM, FORMALDEHYDE, NICKEL	RES-OIL.PRO
BOILERS-WOOD <100 MBTU/HR	EVALUATE BENZENE, FORMALDEHYDE, NAPHTHALENE, PHENOL	WOODBOIL.PRO
BOILERS-WASTE/USED OIL	LESS THAN ONE HALF MILLION BTU'S HEAT INPUT ARE EXEMPT	POLICY BEING DRAFTED
COATINGS	USE MAXIMUM EXPECTED THROUGHPUT FOR EXEMPTION DE-TERMINATION	MISCCOAT.PRO
ETO STERILIZERS	NO EXEMPTION AND MODEL ETHYLENE OXIDE	APP R, IX, G
GASOLINE	IF GASOLINE IS EXEMPT, DONE	GASOLINE POLICY
HAZARDOUS WASTE BOILERS/FURNACES-	NO EXEMPTION AND MODEL POLLUTANTS ON COMPILED LIST	APP R, IX, G
INCINERATORS	EVALUATE HCL, DIOXIN	INCIN.PRO

C. Example of uncontrolled and potential emissions

A permit application calls for installation of a baghouse on a process which emits cadmium. The permit exemption levels for cadmium are 0.0033 lb/hr and 0.00725 tpy. Uncontrolled emissions of cadmium (without the baghouse) are calculated to be 0.01 lb/hr and 0.02 tpy; therefore, the process must be permitted. Once the permit is written and the baghouse is required, potential to emit becomes 0.0001 lb/hr and 0.0002 tpy. Cadmium emissions are neither modeled nor included as an emission limit for the cadmium emissions. However, permit conditions may specify removal efficiencies or other relevant operating parameters.

D. When to Model the Entire Facility

Exemptions are based on the modification only. If the net emissions are above the exemption level and above the modeling cutoff, any emissions of that pollutant should be included in the modeling analysis. Under some circumstances, however, agency resources are more effectively used by limiting the modeling to emissions from the modification only. The following circumstances are examples in which the toxics modeling should include the entire facility:

1. There have been complaints regarding the pollutants emitted from the proposed modification.
2. The regional engineer suspects that an exceedance is likely due to the stack characteristics, locations of property lines, or magnitude of emissions.
3. The source has made several exempt modifications for the same pollutants.

X. ENGINEERING EVALUATION

Strictly speaking, engineering evaluation only encompasses the review of emission estimates and control technology and has already been discussed. What is referred to as the engineering analysis is, in reality, the documentation of the permit review process. As such, it includes regulatory as well as engineering aspects. When we talk about preparing the engineering analysis, what we are really talking about is documenting the permit review process.

The type and amount of documentation required varies with the type of permit being processed. In all cases, it is important to state what the emissions are and where they come from, what regulations apply, what factors have been taken into consideration and what action is recommended.

All permit applications will undergo some level of engineering evaluation and regulatory review. The level of complexity and detail generally depends upon the permit type. In most cases, the emissions evaluation must be completed before the regulations can be reviewed to determine the permit type. Once the engineer makes the determination as to the permit type, he can proceed with performing and documenting the permit review.

In the "no permit required" case, calculation sheets, optionally the minor permit checklist or a short memo will suffice to serve as adequate documentation supporting the no permit determination. In the case of a minor permit, a minor permit checklist is required along with all necessary calculation sheets, modeling (if required), memos, etc., that serve to substantiate the minor permit.

For all major permits, including PSD and Non-Attainment, a formal Engineering Analysis document is required. Because the emissions are much more significant than in a minor permit and because it will be used for EPA, public and board review, this is a much more complex and detailed document. The analysis may be written in the form of an memorandum to the Regional Director. The general outline and details of each section are found in Appendix A of this document.

XI. PERMIT CONTENT

The permit contains two types of conditions, those that are specific to the permit and those which are common to all permits. The conditions which are specific to each permit follow a similar format, but the information they contain pertains to the specific permit being issued. Such conditions include the list of permit application data, equipment list, emission limits, control requirements, compliance\enforcement methods, record-keeping, and reporting.

1. Permit-Specific Conditions

The first permit condition normally references the permit application and should list all revisions to the application. When a permit supersedes an existing permit, the application for the original permit, and any amendments, should be listed as well as the current application and any revisions it may have.

The second permit condition normally lists the equipment covered by the permit. This is obvious in the case of a new source, but care must be used when adding a new emission unit or otherwise modifying an existing source. This is especially true when superseding an existing permit. Each emission unit should be listed as described in enough detail that it will not be confused with other emission units. It may be helpful to group the equipment into equipment to be added, equipment to be modified, existing equipment to be removed and existing equipment to remain; especially when modifying an existing source or superseding an existing permit. This is the only condition that does not require a reference to the regulations, all other conditions must reference a specific regulatory requirement.

The next series of conditions usually specify the required control measures, if any, for each emission unit and/or each pollutant. Both the type and level of control must be clearly specified.

The most important conditions in a permit are those that establish limits. Limits may be placed on operating parameters as well as emissions. When limits are placed on operating parameters, the parameter is being used as a surrogate for a pollutant. Some operating parameters that may be limited are hours of operation, material throughput, type of material, fuel usage and production rates. Operating parameters should only be limited when they have a direct impact on a pollutant being regulated. It is very easy to impose limits which are burdensome to the source and do not provide any benefit. As an example, limiting operating hours has little benefit when emissions are not produced at a constant rate; emissions from a boiler are a typical case.

When multiple conditions are used to limit the same emission, they frequently conflict. You should decide what has to be limited, review the options available, and select the best limit, rather than imposing every limit you can think of.

An emissions limit is needed for each pollutant which is emitted at more than 0.5 tons per year. Limits may also be needed for each emission unit. At a minimum, a pound per hour and a ton per year limit are required. The pound per hour limit should represent the maximum hourly emission rate and is usually important for the toxics review. The tons per year should represent the maximum annual emission and is used mainly for inventory purposes and compliance with major source regulations. The annual limit should not normally be the hourly limit multiplied by the

operating hours.
If a New Source Performance Standard or a National Emission Standard for Hazardous Air Pollutants is involved, it may also be necessary to include rate or concentration limits. The pollutant, averaging period and unit of measure may all be specified in the NSPS or NESHAP. For instance, boiler and furnace NO_x, CO and SO_2 limits are specified in terms of pound per million Btu and internal combustion engine emissions are specified in terms of grams per brake horsepower-hour. If the NSPS or NESHAP specify an unusual averaging period, such as 3, 8 or 24 hour, it must be reflected in the limit.

Many permits also include a limit on opacity and require a visible emissions evaluation. Frequently, the opacity limit is specified in an NSPS. Opacity is used as a surrogate parameter for particulate emissions. However, there is no direct relationship between opacity and particulate emission. Justification is required for opacity limits that are more stringent than what is required in Rule 5-1 (20 percent opacity except for one six-minute period of not more than 30 percent). Examples include an NSPS that specifies a lower opacity limit or where BACT establishes a lower opacity limit.

After specifying the emission limits, the permit must specify how compliance is to be determined; both initially and on an ongoing basis. The initial compliance determination usually takes the form of an emissions (stack) test and may also include a visible emissions evaluation (VEE). In some cases, the VEE alone is sufficient to show compliance. In other cases, usually NSPS's involving VOC's and compliant coatings, record keeping may be required to demonstrate both initial and ongoing compliance. Where continuous emissions monitoring (CEM) is required, it may be used to demonstrate initial as well as ongoing compliance. However, opacity monitors can only be used for compliance for opacity limits, they are only compliance indicators for emission limits and, therefore, cannot be used for emission limit compliance demonstration.

If CEM's are required, the permit must specify which ones are required, where they are required, and what standards must be met. This information is in the NSPS/NESHAP that required the CEM, 40 CFR 60 App B (CEM) Performance Specifications and 40 CFR 60 App F (CEM) Quality Assurance Requirements.

If testing is required, the permit must specify which pollutants to test for, the conditions under which the test should be conducted and the appropriate test method (s). It is acceptable to allow the source to use another method, with approval. If the testing is specified in an NSPS or NESHAP, approval to deviate from the specified method must be obtained through the Office of Permit Assistance and Technical Support (OPATS). Care must be used in specifying and approving VOC test methods. The VOC test methods are not all equally appropriate under all conditions.

If record keeping is used to demonstrate compliance, the averaging period used must coincide with the limit being enforced and the records must be taken on a corresponding interval. For a daily limit, records must be taken at least daily. In the case of annual limits, to have federal enforceability, the limit must be computed at least monthly, as the sum of the proceeding twelve months.

Finally, the permit should specify what records should be kept by the source and for how long. The permit should also specify what reports should be submitted, whom to submit them to and how

often. Some reporting is specified and required in the NSPS and NESHAPS. An example is where an NSPS specifies a lower opacity limit or where BACT establishes a lower opacity limit. Remember to check the requirements of NSPS Subpart A as well as the specific subpart.

2. Standard Conditions

The following are standard conditions which must be included in every permit.

a. Permit may be modified or revoked for 4 reasons.
b. Permittee shall allow inspection and testing.
c. Permittee shall notify DEQ of malfunctions
d. Permittee shall minimize excess emissions due to malfunctions.
e. Permit shall become invalid if construction is not commenced within 18 months.
f. Permittee shall notify the succeeding owner of permit.
g. Annual requirements will necessitate prompt response to requests
h. A copy of this permit shall be maintained on the premises.

TABLE A-1 SUMMARY OF STEP-BY-STEP NOTIFICATION ACTIVITIES

NOTIFICATION ACTIVITIES	NO PERMIT	STATE MAJOR	PSD	NAA	Minor	State Regulation/AQP
APPLICATION NOTIFICATION LETTER TO FLM	N	I	R	I	I	MOU AND AQP - 11 (V.A.1.)
APPLICATION NOTIFICATION LETTER TO CHIEF EXECUTIVE LOCAL GOVERNMENT	N	I	R	I	I	∋ 120-08-02 AQP - 11 (V.A.1.)
APPLICATION NOTIFICATION LETTERS TO CHIEF EXECUTIVES OF ADJACENT LOCAL GOVERNMENTS	N	N	R	N	N	AQP - 11 (V.A.1.)
APPLICATION NOTIFICATION LETTER TO CHIEF EXECUTIVE PLANNING DISTRICT COMMISSION	N	N	I	N	N	AQP - 11 (V.A.1.)
APPLICATION NOTIFICATION LETTERS TO PSD LIST OF INDIVIDUALS	N	N	R	N	N	AQP - 11 (V.A.1.)
NEWSPAPER NOTICE OF BRIEFING BY APPLICANT	N	I	R	R	N	∋ 120-08-01 G. ∋ 120-08-02 R.
PUBLIC INFORMATIONAL BRIEFING BY APPLICANT	N	I	R	R	N	∋ 120-08-01 G. ∋ 120-08-02 R.
OPATS COMMENTS ON DETERMINATION	N	N	R	N	N	
INITIAL LETTER OF DETERMINATION	N	N	R	N	N	∋ 120-08-02 R.
COMPLETENESS REVIEW	N	R	R	R	R	∋ 120-08-01 F.
NOTIFICATION LETTERS TO **APPLICATION NOTIFICATION INDIVIDUALS ABOVE** OF PUBLIC HEARING	N	I	R	R	I	MOU ∋ 120-08-01 E.
NOTIFY GENERAL ASSEMBLY MEMBER FROM LOCATION OF PUBLIC HEARING BY LETTER	N	N	R	N	N	AQP - 11 (V.A.2.)
NOTIFY GENERAL ASSEMBLY MEMBERS FROM ADJACENT LOCATIONS OF PUBLIC HEARING BY LETTER	N	I	R	N	I	AQP - 11 (V.A.2.)
NEWSPAPER NOTICE OF PUBLIC BRIEFING AND COMMENT PERIOD	N	R	R	R	R	∋ 120-08-02 R.
PERMIT PACKAGE APPROVAL	N	R	R	R	R	∋ 120-08-01 H.
PUBLIC BRIEFING	N	I	R	I	I	∋ 120-08-01 G / 02 R.
PUBLIC COMMENT PERIOD	N	I	R	R	I	∋ 120-08-01 G / 02 R.
PUBLIC HEARING	N	I	R	R	I	∋ 120-08-01 G / 02 R.
RESPONSE TO COMMENTS	N	I	R	I	I	∋ 120-08-01 G / 02 R.
BOARD REVIEW/PERMIT SIGNATURE	N	N	I	I	I	∋ 120-08-01 H / 02 R.
LETTERS TO PARTICIPATING PUBLIC	N	N	R	N	N	∋ 120-08-01 G.
LEGEND						**I - IF NEEDED.** **R - REQUIRED.** **N - NO.**

PART A-1 ENGINEERING EVALUATION

I. Executive Summary (Optional)

II. Introduction and Background

A. Company Background
1. Facility Description
a. Company Name
b. Type of Business
2. Location of Project
a. Specific Area: County
b. Site Suitability
c. UTM Number

B. Project Summary
1. Source Type Description
a. Modified Source
b. New Source
2. Permit History of Modified Source
a. Current Operation
b. Proposed Operation
c. Related Enforcement Actions, Is facility currently in compliance with State + Federal Regulations (and NAAQS)

C. Process/Equipment Description
1. Production Rates
2. Proposed Production Schedule

D. Schedule of Project
1. Date Received Permit Application
2. Proposed Construction Commencement Date
3. Proposed Start-up Date

III. Emissions Calculations

IV. Regulatory Review and Considerations

A. Criteria Pollutants
1. Appendix R Exemption Levels - Exempt ?
2. Nonattainment Review
3. PSD Review
4. State Major
5. Minor Sources
6. Model Results and Compare to NAAQS

B. Toxic Pollutants
1. Apply Appendix R Exemption Levels - Exempt ?
2. Rule 5-3
3. NESHAP

C. Model Results and Compare to SAAC

D. Control Technology Standards and Analysis
1. LAER
2. NESHAP
3. RACT
4. MACT
5. BACT
6. NSPS

E. Modeling Parameters
1. Location and Dimensions of Structures - Plot Plan of Facility
a. Building Locations and Dimensions
b. Stack Locations and Dimensions
2. Other Stack Parameters
a. Velocity of Air
b. Temperature
c. Cover...etc.
3. Meteorological Data
4. Terrain Discussions
a. Simple
b. Complex
c. Flat
d. Intermediate
5. Model Used
6. Other Modeling Considerations

V. Compliance Determination

A. Stack Tests
B. VEE's
C. CEMS - Continuous Emission Monitoring System
D. Record Keeping Requirements - Data Collection and Reporting
1. Operational Hours
2. Certifications - fuel analysis (%S content), % municipal solid waste
3. Throughput - raw material input, solvent consumption, fuel oil consumption

VI. Public Participation

A. Public Hearing Notice
B. Public Hearing Opening Statement
C. Public Briefing
D. Virginia Register Notice
E. Documents Concerning Public Comment Period
F. Location

VII. Notification of Other Government Agencies (as applicable):

A. DEQ Divisions
B. Other State Agencies

C. Federal Agencies
1. EPA
2. National Park Service (Federal Land Manager)
3. Forest Service (Federal Land Manager)

VIII. Pollution Prevention

IX. Documents List

X. Recommendations
A. Prepared By:
B. Reviewed By:
C. Approved By:

The information included in each section of the analysis is as follows:

I. Executive Summary

The Executive Summary should contain a brief synopsis of the major sections for complex permit applications. The section is optional and is not necessary for many applications.

II. Introduction and Background

A. Company background

Describe the facility including company name and type of business. Give the location of the proposed construction, including county, UTM coordinates, and the site suitability (refer to Appendix K of the Regulations for non-attainment areas).

B. Project Summary

Describe what the owner wants approval to do. Give all the facts which bear on the description of the facility and proposed action. The following must be covered:

1. Type of Source: whether modified or new furnace, incinerator, rock crusher, grain mill, gasoline storage, nitric acid manufacturer, etc. Size including the design capacity, expressed as feed rate or production rate.

2. Permit history of modified sources to include current operations, proposed operations and related enforcement actions to include whether facility is currently in compliance with state and federal regulations such as the NAAQS.

3. Process/Equipment Description: discuss the production capabilities in terms of production rate and proposed production schedule.

C. Schedule of Project

Include the date the application was received, proposed construction commencement date and proposed start up date.

III. Emission Evaluation of Criteria and Toxic Compounds

Summarize uncontrolled, predicted and recommended emissions and include the calculations as an enclosure.

IV. Regulatory Review and Considerations

The permit engineer shall review the regulations to determine which criteria pollutants, toxic pollutants, modeled emissions/ambient air impact, control technology standards and analysis apply.

A. Criteria Pollutants

Apply Appendix R of the Regulations as the threshold to determine exemption. Evaluate criteria pollutants under PSD and Nonattainment review. Include any netting performed. Discuss state major applicability. Compare model results to the National Ambient Air Quality Standards (NAAQS).

B. Toxic Pollutants

Apply Appendix R as the threshold to determine exemption. Evaluate toxic pollutants using Rule 5 - 3 and NESHAP. Compare model results to the Significant Ambient Air Concentrations (SAAC).

C. Control Technology Standards and Analysis

Discuss the control technology or standard used from the list below:

- LAER
- NESHAP
- RACT
- MACT
- BACT
- NSPS

Include a discussion of the analysis that support use of the control technology or standard.

D. Modeling Parameters

Discuss the site layout to include the location and dimensions of structures which describes the plot plan of the facility. Building locations and dimensions, stack locations and dimensions should be discussed. Other stack parameters such as stack velocity, temperature, cover and other applicable parameters should also be discussed if needed. Terrain features to include simple, complex, flat and intermediate should be

discussed. Discuss the model used and other modeling considerations.

V. Compliance Determination

A. Stack Test

Discuss the need for specific stack tests and how they will be conducted to support the applicant in demonstrating initial and continuing compliance.

B. Visual Emissions Evaluations (VEE)s

Discuss the need for VEEs and how they will be conducted to support the applicant in demonstrating initial compliance.

C. CEMS - Continuous Emission Monitoring System

Discuss the Continuous Emission Monitoring System or systems that are required and how they support demonstration of compliance.

D. Record-keeping Requirements - Data Collection and Reporting

Compliance with emission limits, throughput limits, or other limits established in permit conditions need to be verifiable through adequate record-keeping requirements. These requirements must be placed in the permit as permit conditions and should reflect parameters that can be reasonably measured. For example, if there is a throughput limit on solvent usage, then a separate permit condition needs to require that adequate records be kept on the solvent usage rate. If the %S in a fuel is established as a permit condition, then certification of the fuel %S analysis needs to be required as a permit condition to demonstrate compliance with the %S limit. See the specific boilerplate conditions for guidance on record keeping time periods and exact wording.

Compliance determinations are the responsibility of the Regional Inspectors and SBA/ATS. Any subsequent enforcement action is the responsibility of regional staff with SBA/ATS concurrence. Compliance is based on permit conditions, Federal Regulations (40 CFR 60), associated SAPCB Regulations and/or consent order conditions. Emissions evaluations are conducted according to ENF 14 Policy for excess emissions reporting (EER) review. Continuous Emissions Monitoring (CEM) may be specified in the permit based on regulations or if source plans to demonstrate compliance using CEM. Stack testing requirements are determined from the Regulations. Recordkeeping is developed to assure the source and DEQ can determine compliance with the Regulations and permit conditions.

VI. Public Participation

Discuss the applicability of a public hearing and include Public Hearing Package and planned locations. Public Hearing Package consists of the opening statement for the public hearing, the public briefing statement, a list of documents which are made available during the public comment period.

VII. Notification of Other Government Agencies

Discuss which of the following DEQ Divisions, other State Agencies and Federal Agencies were notified and include any comments submitted to the Air Division.

A. DEQ Water Division
B. DEQ Waste Division
C. Department of Labor and Industry
D. U. S. Environmental Protection Agency (US EPA)
E. National Park Service (Shenandoah National Park)
F. United States Department of Agriculture, Forest Service (James River Face Wilderness)

VIII. Pollution Prevention

Discuss pollution prevention if applicable, including cross-media transfer of pollutants from air to water and/or solid waste.

IX. Document List

List the document used as a reference in the preparation of the engineering evaluation and permit conditions.

X. Recommendations

In unique or unusual circumstances, where the concurrence of the Director, Air Division is desirable, the Regional Director will forward the package to the director of the Air Division with his/her recommendations. Attached to the Engineering Analysis shall be a set of application forms, a complete draft permit letter, and a complete public comment period documentation package when required. Copies of applicable NSPS/NESHAP federal regulations are to be included with approved permit.

Minor source permits are usually approved by Regional Directors, if no significant deviations from the boilerplates were made. Minor source checklist is usually used instead of a formal engineering analysis.

The permit engineer reviews the step-by-step permit procedure as a final check before signature. The report signature page includes the preparer's, reviewer's and approving official's signature (normally the Regional Director's), title and date.

FIGURE B-1 EXEMPTION FLOW CHART - NEW FACILITIES

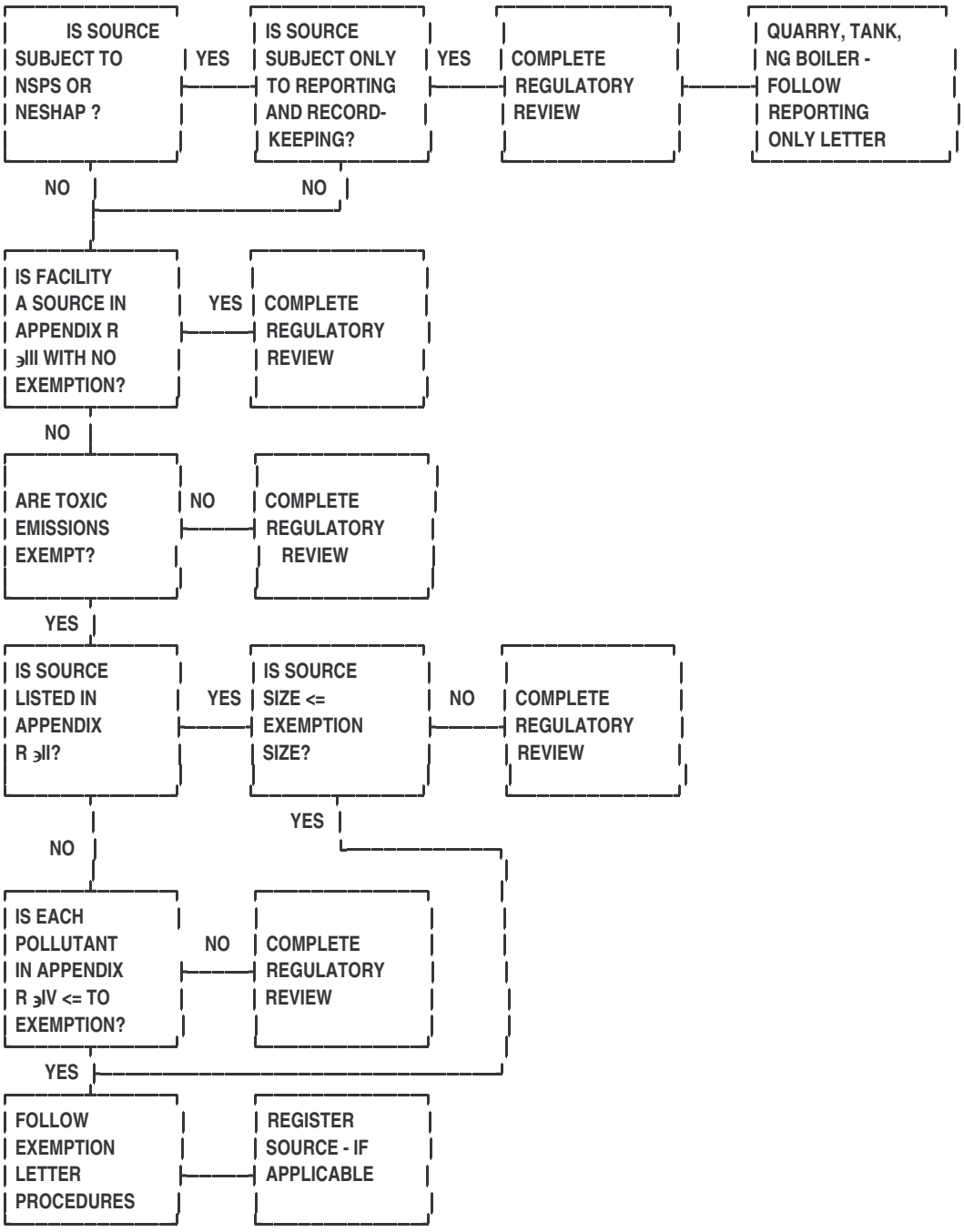
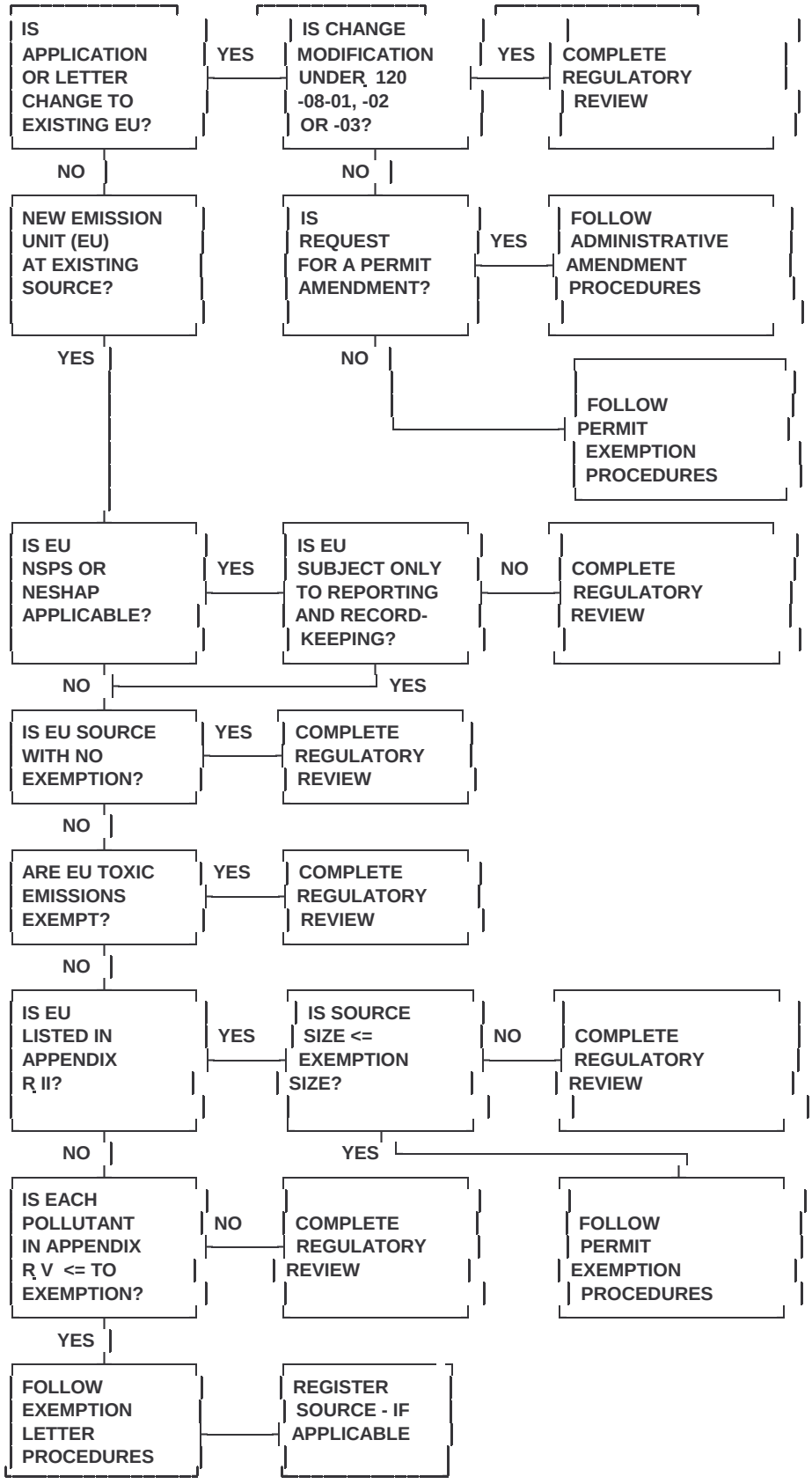


FIGURE B-2 EXEMPTION FLOW CHART - EXISTING FACILITIES



PART B-1 PERMIT EXEMPTION REVIEW PROCEDURES

INTRODUCTION

This appendix provides a checklist for the exemption review process for sources with emissions less than 100 tons per year of all regulated pollutants, all sources subject to New Source Performance Standards (NSPS), all sources subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) and all sources subject to the Toxics rule.

For existing sources which are already registered, the objective of this review is to determine whether a new emission unit or a modification to an existing emission unit requires permitting under Section 120-08-01.

For new sources and existing sources which are not registered, the objectives of this review are (1) to determine whether a new emission unit or a modification to an existing emission unit requires permitting under Section 120-08-01 and (2) to determine whether registration under Section 120-02-31 is required.

For all sources, additional objectives are to determine the applicability of the Toxics Rule, the New Source Performance Standards (NSPS) and the National Emission Standards for Hazardous Air Pollutants (NESHAP).

The regulatory limits for exemptions from permitting are covered in Appendix R of the regulations. In applying these regulations, a facility is not exempt unless it satisfies (1) the requirements of one of the Sections II through VIII and (2) Section IX (the toxics exemptions).

The exemption review procedures come after the preliminary calculations step and constitutes the first portion of the regulatory review step.

A source may be exempt from the permit requirements of 120-08-01 and still require registration:

1. A new source subject to only NSPS reporting and /or record keeping requirements (small tanks).

2. A new source exempt from Rule 5 (New Source Standards) but subject to Rule 4 (Existing Source Standards).

3. An existing source subject to Rule 4 (either never registered or now meeting registration criteria.

A. REFERENCES

1. For all minor sources, SAPCB Regulations for the Control and Abatement of Air Pollution, Appendix R.

2. For minor sources subject to NSPS, Code of Federal Regulations, 40 CFR Part 60 and Appendixes.

3. For minor sources subject to NESHAP, Code of Federal Regulations, 40 CFR Part 61 and Appendixes.

4. U.S. EPA New Source Review Workshop Manual -- Prevention of Significant Deterioration and Nonattainment Area Permitting, Draft October 1990.

B. PERMIT PROCESSING

This step-by-step checklist is applicable to all permit applications. This list may be used to check-off each item as it is completed.

__ 1. Preliminary Meeting - (Optional) Discuss with the source the proposed permit including the regulatory requirements.

__ 2. Source Submits Application - Application may be a Form 7 or a letter.

__ 3. Completeness Review - Within 30 days of receipt of the application, conduct a completeness review. Applications for new sources must have approval from the local government. Applications or letters determined to be exempt do not need the approval letter.

__ 4. Review Letter - Send a Determination of Administratively Complete Letter or a Deficiency Letter to the source also within 30 days.

__ 5. Preliminary Emissions Calculations - (Optional) Calculate emissions using procedures given in the manual.

__ 6. Complete application - Source submits final information to deem the application complete.

__ 7. Regulatory Review - The exemption review procedures are the first part of the regulatory review and are detailed in the following steps.

__ 8. ! Identify each emission unit.

__ 9. ! If the emission unit is part of an existing source, determine whether the emission unit is a new emission unit or a modification to an existing emission unit.

__ 10. ! If the request is for an existing emission unit and does not qualify as a modification, (item 12 above) check to see if it can be processed as an administrative amendment.

__ 11. ! Identify the emissions from each emission unit.

__ 12. ! Classify the emissions as Criteria Pollutants, NESHAP Pollutants and Toxic Pollutants.

__ 13. ! Complete emissions calculations.

__ 14. ! Check each emission unit to determine whether it is subject to a New Source Performance Standard (NSPS). If the emission unit is subject to an NSPS, continue with the regulatory review and continue to process the permit application.

__ 15. ! Check each emission unit to determine whether it is subject to a National Emission Standards for Hazardous Air Pollutants (NESHAP). Consult 40 CFR Part 61. A source subject to any NESHAP requirement is not exempt and a permit is required.

__ 16. ! If the emission unit is one of the sources listed in Appendix R, III or in Appendix R. IX. G., no exemption exists and a permit is required.

__ 17. ! If the emission unit is fuel burning, check the exemption levels listed in Appendix R, II, A 1 through 5.

__ 18. ! If the emission unit is not a fuel burning unit, check to see if it is listed in Appendix R. II. B. through R.. Check to determine that the toxics exemption criteria Appendix R. IX. are also met.

__ 19. ! If the emission unit is not a fuel burning unit, compare the criteria pollutant emissions with Appendix R. IV. for new emission units and Appendix R. V. for modified units. Check to determine that the toxics exemption criteria Appendix R. IX. are also met.

__ 20. Exemption Letter - Write a letter to the applicant informing him that, based upon the information provided in his letter/application, his emission unit/s are exempt and a permit is not required. Advise him if registration is required.

FIGURE C-1 REGULATORY REVIEW - NEW FACILITIES

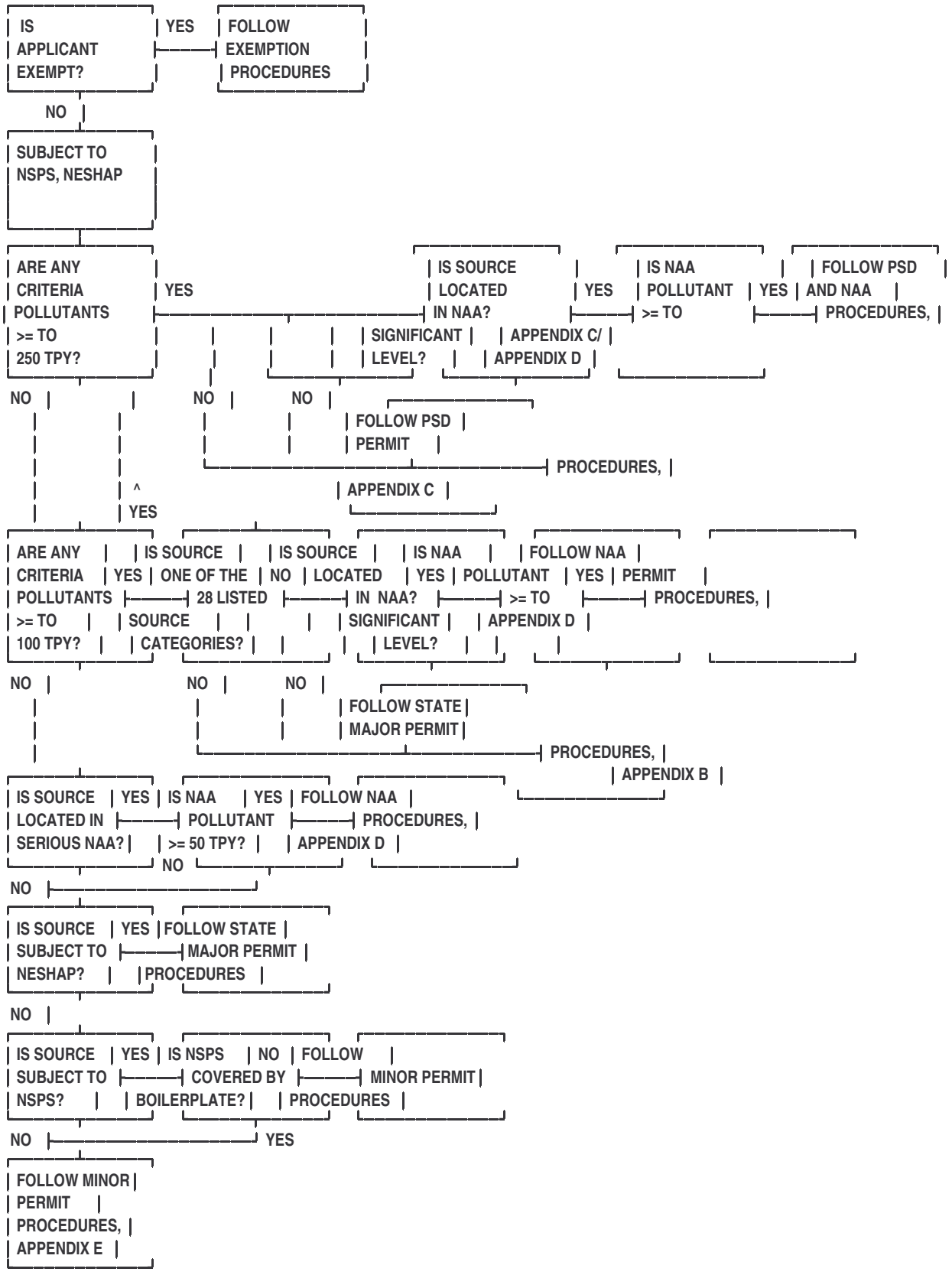
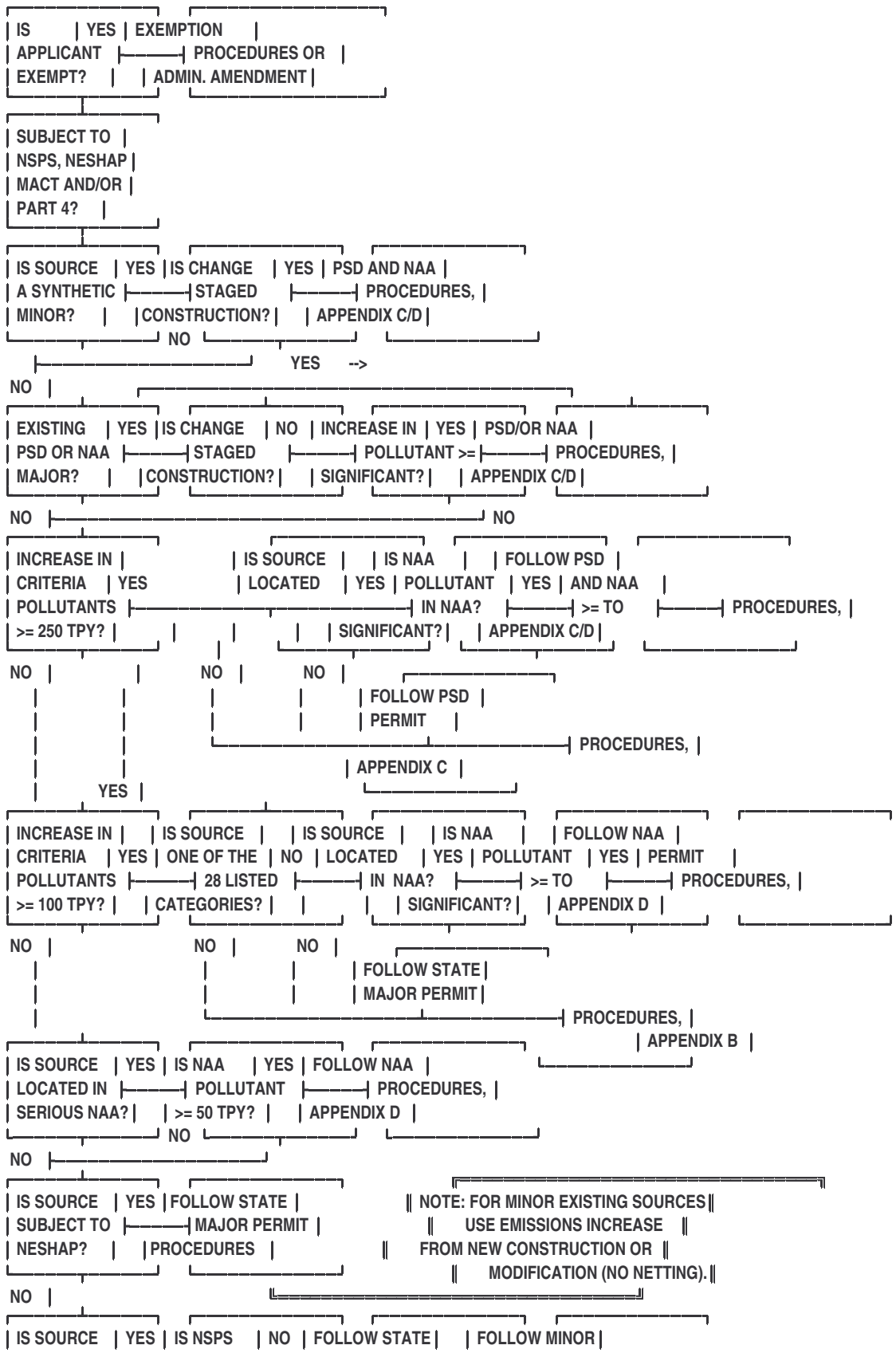
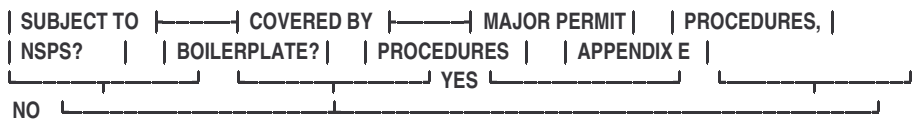


FIGURE C-2 REGULATORY REVIEW - EXISTING FACILITIES




SUBJECT TO NSPS?
COVERED BY BOILERPLATE?
MAJOR PERMIT PROCEDURES
PROCEDURES, APPENDIX E
YES
NO

PART C-1 STATE MINOR SOURCE PERMIT REVIEW PROCEDURE

A. REFERENCES

1. SAPCB Regulations for the Control and Abatement of Air Pollution.

2. U.S. EPA, New Source Review Workshop Manual -- Prevention of Significant Deterioration and Nonattainment Area Permitting, Draft October 1990.

3. Code of Federal Regulations, 40 CFR Part 60 and Appendices.

4. Code of Federal Regulations, 40 CFR Part 61 and Appendices.

5. Summary of New Source Performance Standards provided by OPATS.

B. APPLICABILITY DETERMINATION

DEFINITION - Minor Sources are sources not exempt by Appendix R of the Regulations that are not defined as major stationary sources or major modifications as defined in section 120-08-01 of the Regulations.

C. PERMIT PROCESSING

These step-by-step procedures are applicable to state minor permits and minor modifications.

Public hearings or briefings are not normally required for minor permits. In some rare cases, a minor source may be so controversial that a public hearing will be required.

___ 1. Preliminary Meeting - (Optional) Discuss with the source the proposed permit application including the regulatory requirements.

___ 2. Source Submits Application - Maybe in the form of a letter or Form 7.

___ 3. FLM Notification - Under most circumstances, notification to the FLM for minor permits is not required unless the source is within 10 KM of a Class I Area. If this is the case, the Form 7 and accompanying information must be sent to the FLM within 7 days.

___ 4. Completeness Review - Within 30 days of receipt of the application, conduct a completeness review. Applications for new sources must have approval from the local government (local certification form).

___ 5. Review Letter - Send a Determination of Administratively Complete Letter or a Deficiency Letter to the source within 30 days of receipt of the application.

___ 6. Preliminary Emissions Calculations - Calculate emissions using appropriate methods.

___ 7. Receive All Required Information - Source submits all information necessary to deem the application complete.

___ 8. Regulatory Review - Review the applicable NSPS regulations. Note, more than one NSPS may apply.

___ 9. Minor Permit Checklist - Complete the Minor Permit Checklist.

___ 10. Engineering Evaluation - Although no formal engineering analysis is required for minor permits, it is necessary to document all pertinent calculations and assumptions. Also, BACT needs to be briefly addressed if it is not clearly covered by the permit boilerplate. If modeling was performed it may be summarized here.

___ 11. Draft Permit - Draft the permit using the appropriate boilerplate permit. Conditions from different boilerplates can be added to create a hybrid boilerplate. Other pre-approved conditions can be added to boilerplates and still be signed in the Regional Office.

___ 12. Draft Permit Routing - Route the draft permit package through the Regional Office as necessary.

___ 13. Comments from Applicant - Send a copy of the draft permit to the applicant for comments.

___ 14. Permit Issuance - If no comments are received from the applicant, issue the permit with the Regional Director's signature.

PART C-2 STATE MAJOR SOURCE PERMIT REVIEW PROCEDURE

INTRODUCTION

This appendix addresses the permitting process for state major sources and state major modifications. NESHAP permits must also be processed under these procedures. NSPS permits may be processed under the Minor Source Permit Review Procedures (Appendix B above) if applicable.

A state major source or state major modification may be subject to Nonattainment review and must be processed under the Nonattainment Major Source Permit Review Procedures (Appendix D herein). *The addition of a new emissions unit at a state major source may be processed under the Minor Source Permit Review Procedures (Appendix E-1 herein) if applicable. Amendments to state major source permits should be processed under the procedures in Section O (Amendments).

A. REFERENCES

1. SAPCB Regulations for the Control and Abatement of Air Pollution.

2. U.S. EPA, New Source Review Workshop Manual -- Prevention of Significant Deterioration and Nonattainment Area Permitting, Draft October 1990.

3. Code of Federal Regulations, 40 CFR Part 60 and Appendixes.

4. Code of Federal Regulations, 40 CFR Part 61 and Appendixes.

5. Summary of New Source Performance Standards provided by OPATS.

B. APPLICABILITY DETERMINATION

DEFINITION - State Major Sources or Major Modifications are defined in Section 120-08-01 of the Regulations.

If the permit limits the emissions to less than 100 tons per year for each regulated pollutant, then the source is not a state major.

"Major modification" means any modification defined as such in و 120-08-02 or و 120-08-03, as may apply.

C. PERMIT PROCESSING

These step-by-step guidelines are applicable to state

major sources and state major modifications. If the source is also subject to Nonattainment, refer to those appendices for additional requirements.

___ 1. Preliminary Meeting - Discuss with the source the proposed permit including the regulatory requirements. This meeting is not mandatory but may be helpful in clarifying issues.

___ 2. Source Submits Form 7 Application

___ 3. FLM Notification - If the application is for a state major source within 100 km of a Class I area, notify the appropriate Federal Land Manager (FLM) within 7 days.

___ 4. Completeness Review - Within 30 days of receipt of the application, conduct a completeness review. Applications for new sources and major modifications must have approval from the local government.

___ 5. Review Letter - Send a Determination of Administratively Complete Letter or a Deficiency Letter to the source within 30 days of receipt of the application.

___ 6. Applicant Public Notice - No later than 15 days after receiving the Department letter (#8 above), the applicant must place a public notice in the local newspaper (refer to appropriate Section of the Regulations). Not required for a minor NESHAP.

___ 7. Emissions Calculations - Calculate emissions as appropriate.

___ 8. Complete application - Source submits final information to deem the application complete.

___ 9. Regulatory Review - Review the applicability of the air regulations such as NSPS, NESHAP, Non Attainment, etc. Note, more than one NSPS may apply.

___ 10. Engineering Evaluation - Prepare a written engineering analysis, including emissions calculations, BACT analysis, Modeling (if required) and Toxics Analysis(if required).

___ 11. Draft Permit - Draft the permit using appropriate boilerplate permits or the 10A. Per or Mer in K:\AGENCY\DTE\PERMAST*.PER or MER.

___ 12. Route Draft Permit as Appropriate for your Regional Office

___ 13. Comments from Applicant - Send a copy of the draft

permit to the applicant for comments (specify a response date).

___ 14. Permit Package Approval - Submit the following permit package to the Regional Director in order to request approval for a public hearing. Do not proceed to the next step without approval of the permit package.
a. Permit Application
b. Calculations
c. Public Participation Items including opening statement, public hearing notice, Virginia Register notice, and documents concerning public comment period

d. Draft Permit

___ 15. Public Comment Period - Publish the public hearing notice in local or regional newspapers to provide for a 30 day public comment period. Send a copy of the notice to EPA and local and state agencies sharing the region (see Section 120-08-01 G 5b.). Send out the Virginia Register Form.

___ 16. Public Briefing - May hold a public briefing days in advance or 30 minutes prior to the public hearing.

___ 17. Public Hearing - Hold and record the public hearing using established Department procedures.

___ 18. Response to Comments - Prepare a hearing summary, respond to comments, prepare a final draft permit and provide a copy of the draft permit to the applicant for comments.

___ 19. Final Draft - Submit the final draft permit package to the Regional Director for approval including the hearing summary, response to comments, and final draft permit.

___ 20. Board Review - If Board action is required, prepare Board Book write-up.

___ 21. Permit Signature - The Regional Director signs the approved permit.

PART D-1 PSD PROCEDURES

A. REFERENCES

1. Code of Federal Regulations, 40 CFR Part 52, Section 52.21.

2. SAPCB Regulations for the Control and Abatement of Air Pollution, Sections 120-05-0405, 120-08-02, and 120-08-01.

3. U.S. EPA, New Source Review Workshop Manual -- Prevention of Significant Deterioration and Nonattainment Area Permitting , Draft October 1990.

4. Memorandum of Understanding Between Jefferson National Forest and DAPC signed March, 1993.

5. Memorandum of Understanding Between Shenandoah National Park and DAPC signed March, 1993.

B. APPLICABILITY DETERMINATION

Refer to the new source review manual, PSD regulations (section 120-08-02), and Section F.3. of this manual for determining PSD applicability.

As a general guide, you should review a permit for PSD applicability if:

a. It is a new plant being constructed and will be a major source once completed.

b. An existing major source is being modified and the proposed emission limits of the modified units exceed the threshold limits specified in Table VI.

c. An existing minor source is being modified and the total emissions from the new or modified emissions units exceed the threshold for major sources.

d. An existing minor source is being modified but has previously had a permit limit on throughput, emissions, or hours of operation which represent less than full capacity to avoid PSD review.

C. PSD PERMIT PROCESSING

The New Source Review Workshop Manual should be used in conjunction with this guide line, the PSD Regulations

(Section 120-08-02), and the Major Source Permit Review Procedure (for pollutants not subject to PSD for determining the requirements to be met in processing a PSD permit). Following is a general outline of the steps to be followed in reviewing PSD permit applications.

___ 1. Preliminary Meeting - Identify information necessary to determine PSD applicability. Describe requirements of PSD permitting (i.e. BACT, air quality analysis, additional impacts analysis, Class I impacts analysis, notifications to Federal Land Managers, the public, and the possibility of Board meeting). Notify applicant of FLM willingness to meet for pre-application or pre-hearing meetings upon request. Include OPATS for meteorological data collection/modeling protocol requirements. Give applicant a copy of the PSD modeling procedures.

___ 2. Preliminary FLM Notification - Notify FLMs by letter of meeting or application within 30 days.

___ 3. Source Submits Form 7 Application - Send a copy of the Application to the FLMs as soon as possible.

___ 4. Regulatory Review - Review NSPS, NESHAP, and non-attainment regulations to determine if the permit is subject to these regulations.

___ 5. Preliminary Emissions Calculations and Application review Once application is received, review BACT evaluation if included, verify emissions estimates to the extent possible, and verify which pollutants are subject to PSD (see Chapter A of the New Source Review Manual). A PSD application must include approval from the local governing body.

___ 6. PSD Initial Letter of Determination - PSD Initial Letter of Determination (ILOD) shall be sent within 30 days of application. The ILOD should be issued from the region, signed by the Regional Director. Send a copy of ILOD to FLMs. Also, notify the Chief Executive of the Local Government, adjacent Chief Executives of the Local Governments and Chief Executive of the Planning District Commission (if applicable) and persons on the PSD list by letter. Additional information request to the applicant or receipt of information from the applicant shall be documented by letter ($_3$120-08-02-R1).

___ 7. Preliminary Public Notice of Applicant Informational Briefing - Within 30 days of receipt of the ILOD, the applicant must notify the public of the proposal (application) by publishing a notice in at least one

newspaper of general circulation within the air quality control region. See Section 120-08-02 R of the Regulations for additional information regarding the public notice/briefing.

___ 8. Preliminary Modeling - Contact OPATS for guidance.

___ 9. Monitoring Determination - Contact OPATS for guidance.

___ 10. Monitoring Site and Protocol Approval - If monitoring is required, the site and protocol must be approved by the monitoring division with input from the staff meteorologist and regional personnel. The FLMs should be notified of the monitoring requirement site visit so that they may accompany staff if desired.

___ 11. Refined Modeling - Consult OPATS and the New Source Review Manual to determine if refined modeling is required to determine compliance with the NAAQS and allowable increments. FLMs should be notified of the proposed site and site visit (if required).

___ 12. Data Submission - Monitor/met data must be quality assured and submitted monthly on diskette in a form acceptable to OPATS.

___ 13. BACT Analysis - The applicant is required to submit a formal BACT analysis. This analysis should be reviewed to determine the accuracy of the control costs estimates, verify that any technologies ruled out are either technically or economically infeasible, and checked for omissions of control equipment.

___ 14. Final Modeling - Once the BACT analysis has been tentatively approved and emissions limits to be included in the draft permit are established, the final modeling to demonstrate compliance with the NAAQS and increments must be conducted (if required). The modeling must be done according to a protocol approved by OPATS with input from the regional office.

___ 15. Additional Impacts Analysis - The applicant is also required to submit an "Additional Impacts Analysis". Refer to Chapter D of the New Source Review Manual for the requirements of the analysis.

___ 16. Engineering Evaluation - A complete engineering analysis should be prepared according to the description given in the Engineering Evaluation section of this manual. All pertinent calculations and assumptions should be documented, along with a summary of the BACT analysis, air quality impacts analysis, and any responses to adverse impact determinations.

___ 17. Draft Permit - Permit should be drafted using the 10A boilerplate as a guide, including conditions necessary to enforce BACT, NSPS, and NESHAP requirements.

___ 18. Draft Permit Routing - Permit should be routed through the regional office for approval/comments according to the regional policy.

___ 19. Comments from Applicant - Send a copy of the draft permit to the applicant for comments.

___ 20. Draft Permit Approval - Send the permit package to the Regional Director for approval to proceed with public comment period. Notify the FLM of any changes to the draft permit, etc resulting from this review.

___ 21. Permit Package - Include the draft permit, engineering analysis (this should include a summary of the BACT analysis, air quality analysis, and additional impact analysis), summary of the documents for public hearing, public hearing notice, opening statement, permit application and supporting documentation. The dates in the advertisement for public hearing are left blank.

Send copy of the draft permit and engineering analysis (along with any supporting documentation that has not yet been sent if appropriate) to the FLM for review 60 days prior to the end of the public comment period. It is the responsibility of the FLM to determine if an adverse impact on the Class I area will result from the proposed source.

___ 22. Notice of Public Briefing by the Department - The Department will prepare a Public Briefing to be given just prior to the beginning of the public comment period. The notice for the public briefing must be published at least 30 days prior to the briefing. Prior to the public briefing, a copy of the permit package should sent to the EPA regional office and be on file in at least one place of public access (for example, a public library) near the proposed location. As required by 120-08-02 R, the public hearing must be held at the end of the public comment period. This results in a time delay of at least 60 days between the initial advertisement and the public hearing.

___ 23. Adverse Impact Determinations - If the FLM determines that the project may result in an adverse impact on visibility and notifies the agency to that effect within 30 days of receiving the draft permit, the agency is required to consider the claim and determine if it concurs.

___ 24. Public Notice of Public Hearing - The region submits the advertisement for public hearing. At least 30 prior to the public hearing, a copy of the revised permit package must arrive at EPA regional office and be on file in at least one place of public access.

Copies of the notice for public comment should be submitted to city or county officials (Chief Executive of Local Government, adjacent Chief Executives of Local Government, Chief Executive of the Planning District), PSD listing (individuals), General Assembly member of locality and General Assembly members of adjacent localities, EPA, federal land managers, and any state and indian governing body whose lands may be affected by the emissions.

___ 25. Public Briefing - The public briefing should be conducted by the regional office staff with assistance from OPATS as needed. The briefing should include a discussion of the proposed project, the expected emissions, proposed controls, other applicable permit conditions, and an opportunity for questions.

___ 26. Public Hearing - The public hearing and response to public comment should be conducted.

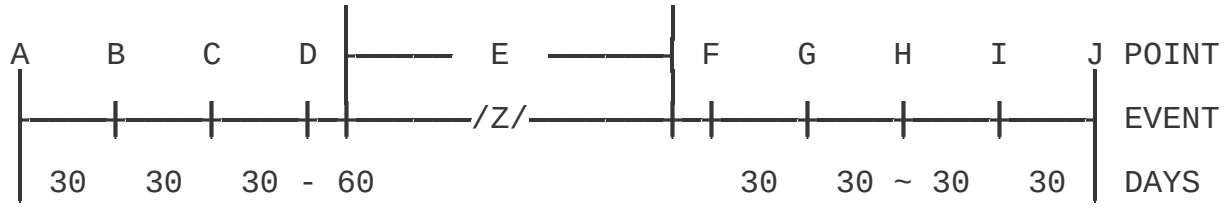
___ 27. Response to Public Comment - The applicant may respond to any comment within 10 days of the close of the public comment period.

___ 28. Agency Response to Public Comment - A summary of the comments received is prepared, along with an explanation of changes that were made to the draft permit or reasons that comments were not incorporated into the draft permit. For PSD only, a copy of the analyses of comments, approved permit and letter explaining how to appeal to the Board (ვ120-02-09) and US EPA (40 CFR 124.15-19) shall be sent to all those individually specifically notified of the public comment period and those who made comments during the public comment period or hearing. The letters shall be sent to ensure receipt (approximately five days) prior to the commencement of the thirty day period before the permit becomes effective (DEQ requirement).

___ 29. Final Permit Decision - The final permit package should be submitted to the Regional Director for signature. The Regional Director may determine that a final decision on the permit should be made by the State Air Pollution Control Board.

Copies of the final permit are to be sent to the Federal Land Managers, and EPA. If a permit is appealed to EPA, the permit does not become effective until EPA makes a final decision on the appeal.

FIGURE D-2 PSD NOTIFICATION TIMELINE



POINT

A - start, receive application, initial application completeness.
B - initial psd letter of determination, application notification letters.
B + notification letters, flm, local governments, planning district, psd list.
C - notification of informational brief by applicant.
D - informational brief by applicant.
E - complete application and processing.
F - notification of public briefing, comment and hearing (begin flm review).
G - open public briefing, public comment period and notification of public hearing.
H - public hearing followed by response to comments.
I - issue permit after board review, if necessary (30 day appeals period follows).
! complete permit package mailed to all commenters and all of b above.

J - permit becomes effective without comment.

PART E-1 NONATTAINMENT PERMIT PROCEDURES

A. REFERENCES

1. Code of Federal Regulations - 40 CFR 51 (Requirements for Preparation, Adoption and Submittal of Implementation Plans including Appendix S).

(ii) Commonwealth of Virginia State Air Pollution Control Board (SAPCB) Regulations for the Control and Abatement of Air Pollution - Sections 120-05-0404 and 120-08-03.

(iii) Clean Air Act (CAA or Act) - Sections 173 and 182.

(iv) U.S. EPA, New Source Review Workshop Manual -- Prevention of Significant Deterioration and Nonattainment Area Permitting , Draft October 1990 (Chapters F and G).

(v) National Ambient Air Quality Standards (NAAQS).

B. APPLICABILITY DETERMINATION

Table D-1 lists these emissions thresholds for sources locating in various nonattainment areas in Virginia. Table D-1 also lists the area classification as to its nonattainment status (marginal, moderate, or serious).

Note that PSD regulations apply to a major source located in a nonattainment area if attainment pollutant(s) are emitted by the source in significant amounts. See Table VI for the PSD significant amounts listing. Examples are found in reference (IV).

Fugitive emissions are counted in determining whether a nonattainment review applies if the emissions of the nonattainment pollutant(s) are from one of the following processes:

- Coal cleaning plants (with thermal dryers).
- Kraft pulp mills.
- Portland cement plants.
- Primary zinc smelters.
- Iron and steel mills.
- Primary aluminum ore reduction plant
- Primary copper smelters.
- Municipal incinerators capable of charging more than 250 tons of refuse per day.
- Hydrofluoric, sulfuric, or nitric acid plants.
- Petroleum refineries.
- Lime plants.
- Phosphate rock processing plants.
- Coke oven batteries.
- Sulfur recovery plants.

- Carbon black plants (furnace process).
- Primary lead smelters.
- Sintering plants.
- fuel conversion plants.
- Secondary metal production plant.
- Chemical process plants.
- Fossil-fuel boilers (or combination thereof) totaling more than 250 million Btu/hr heat input.
- Petroleum storage and transfer units with a total storage capacity exceeding 3000,000 barrels.
- Taconite ore processing plants.
- Glass fiber processing plants.
- Charcoal production plants.
- Fossil fuel-fired steam electric plants of more than 250 million Btu/hr heat input
- Any other stationary source category which, as of August 7, 1980, is being regulated under Section 111 or 112 of the Federal Clean Air Act.

C. REGULATORY REQUIREMENTS

Non-attainment permits must address the following regulatory requirements:

1. LAER

   The source must apply LAER, which is defined in Section 120-08-03 B. 3.

2. Emission Offset

   The source must obtain external offsets or commit to internal netting of the significant non-attainment emissions at an amount greater than the permitted allowable. The external offsets must meet the criteria of Section 120-08-03 N.

   (i) Emission offsets must be of the same pollutant category.

   (ii) Emission offsets must occur within the same nonattainment area.

   (iii) Emission offsets must be federally enforceable before the final permit is issued.

   (iv) Emission offsets must be in place prior to commencement of operations of the proposed source.

   (v) Emission offsets must represent a positive net air quality benefit in the nonattainment area to ensure reasonable further progress toward attainment of the NAAQS.

3. Other Requirements

   (i) All the existing major sources owned by the applicant in the State must have an

emission limit and either be in compliance or on an enforceable compliance schedule before the permit is issued.

(ii) Proposed nonattainment area sources that may impact a Class I area are subject to review by the Class I area FLM.

(iii) All nonattainment NSR must go through the public participation process.

D. PERMIT PROCESSING

__ (i) Preliminary Meeting - Discuss with the source the proposed permit including the regulatory requirements for LAER and offsets.

__ 2. Source Submits Form 7 Application

__ 3. FLM Notification - If the application is a major source, i.e., > 100 tpy of any one pollutant, within 100 km of the James River Face Wilderness or Shenandoah National Park or any source within 10 km of the above, notify the appropriate FLM within 7 days.

__ 4. Completeness Review -Within 30 days of receipt of the application, conduct a completeness review. Applications for new sources and major modifications must have approval from the local government.

__ 5. Review Letter - Send a Determination of Administratively Complete Letter or a Deficiency Letter to the source also within 30 days.

__ 6. Site Inspection/Existing Source Review - As necessary.

__ 7. State Wide Compliance - Refer to Section 120-08-03 F.4 of the Regulations.

__ 8. Applicant Public Notice - Refer to Section 120-08-03 H. .

__ 9. Preliminary Emissions Calculations -Preliminary calculations of emissions are performed.

__ 10. Regulatory Review - Performed once the application is administratively complete.

__ 11. Engineering Evaluation - Prepare a written engineering analysis including the basis of the determination of LAER and a discussion on how the non-attainment pollutants are to be offset or internally netted. Pollutants not subject to the non-attainment regulations must meet BACT. Modeling results (if required) are also included in the evaluation.

__ 12. Offset Approval - Ensure external offsets or internal netting can be approved under the regulations. Refer to Section 120-08-03 F.3.a. of the Regulations.

__ 13. Complete application - Source submits all information necessary to deem the application complete.

__ 14. Draft Permit - The draft permit should be prepared using the appropriate boilerplate. Use 10A.PER or MER and specific boilerplates as applicable.

__ 15. Comments from Applicant - Send a copy of the draft permit to the applicant for comments.

__ 16. Route Permit - Route the permit package through the regional office for comments as appropriate.

__ 17. Permit Package Approval - The permit package is submitted to Director, Air Division for approval.
Permit Package may include the following:

a. Permit Application
b. Calculations
c. Public Participation Items including opening statement, public hearing notice, Virginia Register notice, and documents concerning public comment period
d. Draft Permit

__ 18. Public Comment Period - Publish a public hearing notice in local or regional newspapers to provide for a 30 day public comment period. Refer to Section 120-08-03 H. of the Regulations.

__ 19. Public Briefing - The public briefing should be conducted by the regional office staff with assistance from OPATS as needed. The briefing should include a discussion of the proposed project, the expected emissions, proposed controls, other applicable permit conditions, and an opportunity for questions. The briefing shall be held at least 30 days in advance of the public hearing and the public shall be given notice of the briefing at least thirty days in advance.

__ 20. Public Hearing - A public hearing is held using appropriate procedures.

__ 21. Response to Comments - Prepare a hearing summary, respond to comments, prepare a final draft permit and provide a copy of the draft permit to the applicant for comment.

__ 22. Final Draft - Submit the draft permit package to Director, Air Division for approval including the hearing summary, response to comments, and final draft permit.

__ 23. Board Review - If a Board action is required, Regional Office prepares Board Book write-up.

TABLE E-1 NONATTAINMENT NSR THRESHOLDS/OFFSET RATIOS

REGION/LOCALITY	POLLUTANT	CLASSIFICATION	MAJOR SOURCE	MINIMUM OFFSET	DE MINIMIS
REGION I					
Smyth County (White Top Mtn)	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
REGION II					
NONE					
REGION III					
NONE					
REGION IV					
Stafford County	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
REGION V					
Charles City County	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY
Chesterfield County	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY
Colonial Heights	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY
Hopewell City	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY
Hanover County	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY
Henrico County	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY
Richmond City	VOC, NO_x	Moderate	100 TPY	1.15:1	40 TPY

Table E-1 NONATTAINMENT NSR THRESHOLDS/OFFSET RATIOS (CONTINUED)

REGION/LOCALITY	POLLUTANT	CLASSIFICATION	MAJOR SOURCE	MINIMUM OFFSET	DE MINIMIS
REGION VI					
Chesapeake City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Hampton City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
James City County	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Newport News City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Norfolk City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Poquoson City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Portsmouth City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Suffolk City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Virginia Beach City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
Williamsburg City	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
York County	VOC, NO_x	Marginal	100 TPY	1.1:1	40 TPY
REGION VII					
Alexandria City	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
	CO	Moderate	100 TPY	1.0:1	100 TPY
Arlington County	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
	CO	Moderate	100 TPY	1.0:1	100 TPY
Fairfax City	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
Fairfax County	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
Falls Church City	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
Loudoun County	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
Manassas City	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
Manassas Park City	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY
Prince William County	VOC, NO_x	Serious	50 TPY	1.2:1	25 TPY

TABLE F-1 NSPS ALPHABETICALLY BY SUBPART

NSPS	SUBPART	40 CFR
Ammonium sulfate manufacture	PP	60.420
Asphalt processing and asphalt roofing manufacture	UU	60.470
Automobile and light truck surface coating operations	MM	60.390
Beverage can surface coating industry	WW	60.490
Bulk gasoline terminals	XX	60.500
Calciners and Dryers in Mineral Industry	UUU	60.730
Coal preparation plants	Y	60.250
Electric utility steam generating units after 9/18/78	Da	60.40a
Emission Guidelines and Compliance Times for Sulf Acid Prod.	Cb	60.30b
Emission Guidelines and Compliance Times	C	60.30
Emission Guidelines and Compliance Times for MWC	Ca	60.30a
Equipment leaks of VOC (onshore natural gas processing plants)	KKK	60.630
Equipment leaks of VOC in petroleum refineries	GGG	60.590
Equipment leaks of VOC in the SOCMI industry	VV	60.480
Ferroalloy production plants	Z	60.260
Flexible vinyl and urethane coating and printing operations	FFF	60.580
Fossil-fuel fired steam generators after August 17, 1971	D	60.40
General provisions	A	60.1
Glass manufacturing plants	CC	60.290
Grain elevators	DD	60.300
Graphic arts industry: Publication rotogravure printing	QQ	60.430
Hot mix asphalt plants	I	60.90
Incinerators	E	60.50
Industrial surf coating of plastic parts for business machines	TTT	60.720
Industrial surface coating: large appliances	SS	60.450
Industrial-Commercial-Institutional steam generating units	Db	60.40b
Kraft pulp mills	BB	60.280
Lead-acid battery manufacturing plants	KK	60.370
Lime manufacturing plants	HH	60.340
Magnetic tape coating facilities	SSS	60.710
Metal coil surface coating	TT	60.460
Metallic mineral processing plants	LL	60.380
Municipal waste combustors	Ea	60.50a
New residential wood heaters	AAA	60.530
Nitric acid plants	G	60.70
Nonmetallic mineral processing plants	OOO	60.670
Onshore natural gas processing: sulfur dioxide emissions	LLL	60.640
Petroleum refineries	J	60.100
Petroleum dry cleaners	JJJ	60.620
Phosphate fertilizer industry: Diammonium phosphate plants	V	60.220
Phosphate fert industry: Granular triple superphosphate storage	X	60.240
Phosphate fertilizer industry: Superphosphoric acid plants	U	60.210

Phosphate fertilizer industry: Triple superphosphate plants	W	60.230
Phosphate fert industry: Wet process phosphoric acid plants	T	60.200
Phosphate rock plants	NN	60.400
Polymeric coating of supporting substrates facilities	VVV	60.470
Portland Cement plants	F	60.60

NEW SOURCE PERFORMANCE STANDARDS - Alphabetically

NSPS	SUBPART	40 CFR
Pressure sensitive tape and label surface coating operations	RR	60.440
Primary Aluminum reduction plants	S	60.190
Primary copper smelters	P	60.160
Primary emissions from basic O2 process furnaces after 6/11/73	N	60.140
Primary Lead smelters	R	60.180
Primary Zinc smelters	Q	60.170
Rubber tire manufacturing industry	BBB	60.540
Secondary brass and bronze production plants	M	60.130
Secondary lead smelters	L	60.120
Sec. emissions from basic O2 process steel facilities >1/20/83	Na	60.140a
Sewage treatment plants	O	60.150
Small Industrial-Commercial-Institutional steam generating units	Dc	60.40c
Stationary gas turbines	GG	60.330
Steel plants: Electric arc furnaces (10/22/74 to 8/17/83)	AA	60.270
Steel plants: Electric arc furnaces and argon- O2 after 8/17/83	AAa	60.270a
Storage vessels for petroleum liquids (5/19/78 to 7/23/84)	Ka	60.110a
Storage vessels for petroleum liquids (6/12/73 to 5/19/78)	K	60.110
Sulfuric acid plants	H	60.80
Surface coating of metal furniture	EE	60.310
Synthetic fiber production facilities	HHH	60.600
VOC emissions from petroleum refinery wastewater systems	QQQ	60.690
VOC emissions from SOCMI air oxidation unit processes	III	60.610
VOC emissions from SOCMI plant distillation operations	NNN	60.660
VOC emissions from the polymer manufacturing industry	DDD	60.560
Volatile org. liq. storage vessels (incl. petroleum) after 7/23	Kb	60.110b
Wool fiberglass insulation manufacturing plants	PPP	60.680
[reserved]	CCC	-
[reserved]	FF	-
[reserved]	II	-
[reserved]	JJ	-
[reserved]	MMM	-
[reserved]	OO	-
[reserved]	RRR	-
[reserved]	YY	-
[reserved]	ZZ	-

TABLE F-2 NSPS NUMERICALLY BY SUBPART

NEW SOURCE PERFORMANCE STANDARDS - Numerically

NSPS	SUBPART	40CFR
General provisions	A	60.1
Emission Guidelines and Compliance Times	C	60.30
Emission Guidelines and Compliance Times for MWC	Ca	60.30a
Emission Guidelines and Compliance Times for Sulfuric Acid Prod. Units	Cb	60.30b
Fossil-fuel fired steam generators after August 17, 1971	D	60.40
Electric utility steam generating units after September 18, 1978	Da	60.40a
Industrial-Commercial-Institutional steam generating units	Db	60.40b
Small Industrial-Commercial-Institutional steam generating units	Dc	60.40c
Incinerators	E	60.50
Municipal waste combustors	Ea	60.50a
Portland Cement plants	F	60.60
Nitric acid plants	G	60.70
Sulfuric acid plants	H	60.80
Hot mix asphalt plants	I	60.90
Petroleum refineries	J	60.100
Storage vessels for petroleum liquids (6/12/73 to 5/19/78)	K	60.110
Storage vessels for petroleum liquids (5/19/78 to 7/23/84)	Ka	60.110a
Volatile org. liq. storage vessels (incl. petroleum) after 7/23/84	Kb	60.110b
Secondary lead smelters	L	60.120
Secondary brass and bronze production plants	M	60.130
Primary emissions from basic oxygen process furnaces after 6/11/73	N	60.140
Sec. emissions from basic O2 process steel facilities after 1/20/83	Na	60.140a
Sewage treatment plants	O	60.150
Primary copper smelters	P	60.160
Primary Zinc smelters	Q	60.170
Primary Lead smelters	R	60.180
Primary Aluminum reduction plants	S	60.190
Phosphate fertilizer industry: Wet process phosphoric acid plants	T	60.200
Phosphate fertilizer industry: Superphosphoric acid plants	U	60.210
Phosphate fertilizer industry: Diammonium phosphate plants	V	60.220
Phosphate fertilizer industry: Triple superphosphate plants	W	60.230
Phosphate fertilizer industry: Granular triple superphosphate storage	X	60.240
Coal preparation plants	Y	60.250
Ferroalloy production plants	Z	60.260
Steel plants: Electric arc furnaces (10/22/74 to 8/17/83)	AA	60.270
Steel plants: Electric arc furnaces and argon-oxygen after 8/17/83	AAa	60.270a
Kraft pulp mills	BB	60.280
Glass manufacturing plants	CC	60.290
Grain elevators	DD	60.300
Surface coating of metal furniture	EE	60.310

[reserved]	FF	-
Stationary gas turbines	GG	60.330
Lime manufacturing plants	HH	60.340
[reserved]	II	-
[reserved]	JJ	-
Lead-acid battery manufacturing plants	KK	60.370
Metallic mineral processing plants	LL	60.380

NEW SOURCE PERFORMANCE STANDARDS - Numerically

NSPS	SUBPART	40CFR
Phosphate rock plants	NN	60.400
[reserved]	OO	-
Ammonium sulfate manufacture	PP	60.420
Graphic arts industry: Publication rotogravure printing	QQ	60.430
Pressure sensitive tape and label surface coating operations	RR	60.440
Industrial surface coating: large appliances	SS	60.450
Metal coil surface coating	TT	60.460
Asphalt processing and asphalt roofing manufacture	UU	60.470
Equipment leaks of VOC in the SOCMI industry	VV	60.480
Beverage can surface coating industry	WW	60.490
Bulk gasoline terminals	XX	60.500
[reserved]	YY	-
[reserved]	ZZ	-
New residential wood heaters	AAA	60.530
Rubber tire manufacturing industry	BBB	60.540
[reserved]	CCC	-
VOC emissions from the polymer manufacturing industry	DDD	60.560
Flexible vinyl and urethane coating and printing operations	FFF	60.580
Equipment leaks of VOC in petroleum refineries	GGG	60.590
Synthetic fiber production facilities	HHH	60.600
VOC emissions from SOCMI air oxidation unit processes	III	60.610
Petroleum dry cleaners	JJJ	60.620
Equipment leaks of VOC from onshore natural gas processing plants	KKK	60.630
Onshore natural gas processing: sulfur dioxide emissions	LLL	60.640
[reserved]	MMM	-
VOC emissions from SOCMI plant distillation operations	NNN	60.660
Nonmetallic mineral processing plants	OOO	60.670
Wool fiberglass insulation manufacturing plants	PPP	60.680
VOC emissions from petroleum refinery wastewater systems	QQQ	60.690
[reserved]	RRR	-
Magnetic tape coating facilities	SSS	60.710
Industrial surface coating: coating plastic parts for business machines	TTT	60.720
Calciners and Dryers in Mineral Industry	UUU	60.730
Polymeric coating of supporting substrates facilities	VVV	60.470

TABLE F-2 TEST METHODS AND PERFORMANCE SPECIFICATIONS

Test Methods

1	Sample and velocity traverses for stationary sources.
1A	Sample and velocity traverses for stationary sources with small stacks or ducts.
2	Determination of stack gas velocity and volumetric flow rate (type S pitot tube).
2A	Direct measurement of gas volume through pipes and small ducts.
2B	Determination of exhaust gas volume flow rate from gasoline vapor incinerators.
2C	Determination of stack gas velocity and volumetric flow rate in small stacks or ducts (standard pitot tube).
2D	Measurement of gas volumetric flow rates in small pipes and ducts.
3	Gas analysis for carbon dioxide, oxygen, excess air, and dry molecular weight.
3A	Determination of oxygen and carbon dioxide concentrations in emissions from stationary sources (instrumental analyzer procedure).
4	Determination of moisture content in stack gases.
5	Determination of particulate emissions from stationary sources.
5A	Determination of particulate emissions from the asphalt processing and asphalt roofing industry.
5B	Determination of nonsulfuric acid particulate matter from stationary sources.
5C	[Reserved]
5D	Determination of particulate matter emissions from positive pressure fabric filters.
5E	Determination of particulate emissions from the wool fiberglass insulation manufacturing industry.
5F	Determination of nonsulfate particulate matter from stationary sources.
5G	Determination of particulate emissions from wood heaters from a dilution tunnel sampling location.
5H	Determination of particulate emissions from wood heaters from a stack location.
6	Determination of sulfur dioxide emissions from stationary sources.
6A	Determination of sulfur dioxide, moisture, and carbon dioxide emissions from fossil fuel combustion sources.
6B	Determination of sulfur dioxide and carbon dioxide daily average emissions from fossil fuel combustion sources.
6C	Determination of sulfur dioxide emissions from stationary sources (instrumental analyzer procedure).
7	Determination of nitrogen oxide emissions from stationary sources.
7A	Determination of nitrogen oxide emissions from stationary sources -- ion chromatographic
7B	Determination of nitrogen oxide emissions from stationary sources (ultraviolet spectrophotometry).
7C	Determination of nitrogen oxide emissions from stationary sources --

	alkaline-permanganate/ colorimetric.
7D	Determination of nitrogen oxide emissions from stationary sources -- alkaline-permanganate/ion colorimetric.
7E	Determination of nitrogen oxides emissions from stationary sources (instrumental analyzer procedure).
8	Determination of sulfuric acid mist and sulfur dioxide emissions from stationary sources.
9	Visual determination of the opacity of emissions from stationary sources.
9A	Determination of the opacity of emissions from stationary sources remotely by lidar.

TABLE F-2 TEST METHODS AND PERFORMANCE SPECIFICATIONS cont'd:

10	Determination of carbon monoxide emissions from stationary sources.
10A	Determination of carbon monoxide emissions in certifying continuous emission monitoring systems at petroleum refineries.
10B	Determination of carbon monoxide emissions from stationary sources.
11	Determination of hydrogen sulfide content of fuel gas streams in petroleum refineries.
12	Determination of inorganic lead emissions from stationary sources.
13A	Determination of total fluoride emissions from stationary sources - SPADNS zirconium lake .
13B	Determination of total fluoride emissions from stationary sources - specific ion electrode.
14	Determination of fluoride emissions from potroom roof monitors of primary aluminum plants.
15	Determination of hydrogen sulfide, carbonyl sulfide, and carbon disulfide emissions from stationary sources.
15A	Determination of total reduced sulfur emissions from sulfur recovery plants in petroleum refineries.
16	Semicontinuous determination of sulfur emissions from stationary sources.
16A	Determination of total reduced sulfur emissions from stationary sources (impinger technique).
16B	Determination of total reduced sulfur emissions from stationary sources.

17 Determination of particulate emissions from stationary sources (instack filtration).

18 Measurement of gaseous organic compound emissions by gas chromatography.

19 Determination of sulfur dioxide removal efficiency and particulate, sulfur dioxide and nitrogen oxides emission rates and electric utility steam generators.

20 Determination of nitrogen oxides, sulfur dioxide, and oxygen emissions from stationary gas turbines.

21 Determination of volatile organic compounds leaks.

22 Visual determination of fugitive emissions from material processing sources and smoke emissions from flares.

23 Determination of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans from stationary sources.

24 Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings.

24A Determination of volatile matter content and density of printing inks and related coatings.

25 Determination of total gaseous nonmethane organic emissions as carbon.

25A Determination of total gaseous organic concentration using a flame ionization analyzer.

25B Determination of total gaseous organic concentration using a nondispersive infrared analyzer.

TABLE F-2 TEST METHODS AND PERFORMANCE SPECIFICATIONS cont'd:

26 Determination of hydrogen chloride emissions from stationary sources.

27 Determination of vapor tightness of gasoline delivery tank using pressure-vacuum test..

28 Certification and auditing of wood heaters.

28A Measurement of air to fuel ratio and minimum achievable burn rates for wood-fired appliances.

Performance Specification - Specifications and test procedures for:

1 Opacity continuous emission monitoring systems in stationary sources.

2 Sulfur dioxide and nitric oxides continuous emission monitoring systems in stationary sources.

3 Oxygen and carbon dioxide continuous emission monitoring systems in stationary sources.

4 Carbon monoxide continuous emission monitoring systems in stationary sources.

4A Carbon monoxide continuous emission monitoring systems in stationary sources.

5 TRS continuous emission monitoring systems in stationary sources.

6 Continuous emission rate monitoring systems in stationary sources.

7 Hydrogen sulfide continuous emission monitoring systems in stationary sources.

Appendix C - Determination of Emission Rate Change.

Appendix D - Required Emission Inventory Information.

Appendix E - [Reserved]

Appendix F - Quality Assurance Procedures.

Procedure 1 - Quality assurance requirements for gas continuous emission monitoring systems used for compliance determination.

Appendix G - [Not applicable]

Appendix H - [Reserved]

Appendix I - Removable label and owner's manual.

APPENDIX G NESHAPS

(1) Subpart A - General Provisions.

(a) § 61.01 - Applicability.

(b) § 61.02 - Definitions.

(c) § 61.12 - Compliance with standards and maintenance requirements.

(d) § 61.13 - Emission tests and waiver of emission tests.

(e) § 61.14 - Monitoring requirements.

(f) § 61.15 - Modification.

(2) Subpart C - National Emission Standard for Beryllium.

(3) Subpart D - National Emission Standard for Beryllium Rocket Motor Firing.

(4) Subpart E - National Emission Standard for Mercury.

(5) Subpart F - National Emission Standard for Vinyl Chloride.

(6) Subpart G - Reserved.

(7) Subpart J - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene.

(8) Subpart L - National Emission Standard for Benzene Emissions From Coke By-Product Recovery Plants.

(9) Subpart M - National Emission Standard for Asbestos.

(10) Subpart N - National Emission Standard for Inorganic Arsenic Emissions from Glass Manufacturing Plants.

(11) Subpart O - National Emission Standard for Inorganic Arsenic Emissions from Primary Copper Smelters.

(12) Subpart P - National Emission Standard for Inorganic Arsenic Emissions from Arsenic Trioxide and Metallic Arsenic Production Facilities.

(13) Subpart S - Reserved.

(14) Subpart U - Reserved.

(15) Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources).

(16) Subpart W - National Emission Standard for

APPENDIX G NESHAPS

Radon-222 Emissions from Licensed Uranium Mill Tailings.

(17) Subpart X - Reserved.

(18) Subpart Y - National Emission Standard for Benzene Emissions from Benzene Storage Vessels.

(19) Subpart Z - Reserved.

(20) Subpart AA - Reserved.

(21) Subpart BB - National Emission Standard for Benzene Emissions from Benzene Transfer Operations.

(22) Subpart CC - Reserved.

(23) Subpart DD - Reserved.

(24) Subpart EE - Reserved.

(25) Subpart FF - National Emission Standard for Benzene Waste Operations.

(26) Appendix B - Test Methods.

(a) Method 101 - Determination of particulate and gaseous mercury emissions from chlor-alkali plants - air streams.

(b) Method 101A - Determination of particulate and gaseous mercury emissions from sewage sludge incinerators.

(c) Method 102 - Determination of particulate and gaseous mercury emissions from chlor-alkali plants - hydrogen streams.

(d) Method 103 - Beryllium screening method.

(e) Method 104 - Determination of beryllium emissions from stationary sources.

(f) Method 105 - Determination of mercury in wastewater treatment plant sewage sludge.

(g) Method 106 - Determination of vinyl chloride from stationary sources.

(h) Method 107 - Determination of vinyl chloride content of inprocess wastewater samples, and vinyl chloride content of polyvinyl chloride resin, slurry, wet cake, and latex samples.

APPENDIX G NESHAPS

(i) Method 107A - Determination of vinyl chloride content of solvents, resin-solvent solution, polyvinyl chloride resin, resin slurry, wet resin, and latex samples.

(j) Method 108 - Determination of particulate and gaseous arsenic emissions.

(k) Method 108A - Determination of arsenic content in ore samples from nonferrous samples.

(l) Method 108B - Determination of arsenic content in ore samples from nonferrous smelters.

(m) Method 108C - Determination of arsenic content in ore samples from nonferrous smelters.

APPENDIX H GENERAL INDEX